

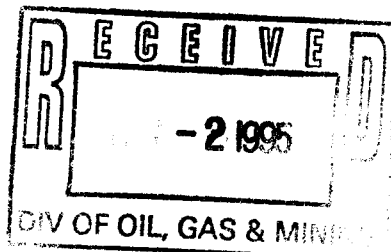


**EQUITABLE RESOURCES**  
**ENERGY COMPANY**

**BALCRON OIL DIVISION**

1601 Lewis Avenue  
P.O. Box 21017  
Billings, MT 59104

Office: (406) 259-7860  
FAX: (406) 245-1365 ☐  
FAX: (406) 245-1361 ☒



February 28, 1995

Bureau of Land Management  
170 South 500 East  
Vernal, UT 84078

Gentlemen:

RE: Balcron Monument Federal #34-25  
SW SE Section 25, T8S, R17E  
.  
Uintah County, Utah

Enclosed is our Application to Drill the referenced well.

As operator, we hereby request that the status of this well be held tight for the maximum period allowed by Federal and State regulations.

Sincerely,

Bobbie Schuman  
Regulatory and Environmental Specialist

/hs

Enclosure

cc: Utah Division of Oil, Gas and Mining

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPlicate

(Other instructions on reverse side)

Form approved.

Budget Bureau No. 1004-0136  
Expires August 31, 1985

CONFIDENTIAL

5. LEASE DESIGNATION AND SERIAL NO.

U-67845

LOTTER OR TRIBE NAME

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL  
WELL ☒

GAS  
WELL ☐

OTHER

SINGLE  
ZONE ☐

MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

Equitable Resources Energy Company, Balcron Oil Division

3. ADDRESS OF OPERATOR

P.O. Box 21017; Billings, MT 59104

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At surface

SW SE Section 25, T8S, R17E

800' FSL, 2100' FEL

At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

Approximately 10 miles southeast of Myton, Utah

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drilg. unit line, if any)

16. NO. OF ACRES IN LEASE

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

18. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

19. PROPOSED DEPTH

6,250'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

GL 5007.6'

22. APPROX. DATE WORK WILL START\*

3/1/95

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
See EXHIBIT "D" Drilling Program/Casing Design				

Operator intends to drill this well in accordance with the attached permit. A listing of EXHIBITS is also attached.

**SELF CERTIFICATION:** I hereby certify that I am authorized, by proper lease interest owner, to conduct these operations associated with the application. Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Equitable Resources Energy Company as principal and Safeco Insurance Company of America as surety under BLM Bond No. MT 0576 (Nationwide Oil & Gas Bond #5547188) who will be responsible for compliance with all of the terms and conditions of that portion of the lease associated with this application.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

*Robbie Schuman*  
Robbie Schuman

TITLE

Regulatory and  
Environmental Specialist

DATE

*February 28, 1995*

(This space for Federal or State office use)

PERMIT NO.

*43-047-32670*

APPROVAL DATE

APPROVED BY

*P. Matthews*

TITLE

*Petroleum Engineer*

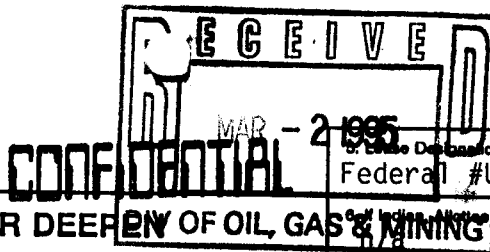
DATE

*6/1/95*

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions On Reverse Side

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING



Lease Designation and Serial Number:  
Federal #4-67845  
Oil, Gas, or Mine Name or Tribe Name:

# APPLICATION FOR PERMIT TO DRILL OR DEEPEN OF OIL, GAS & MINING

1A. Type of Work: DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/>		7. Unit Agreement Name: n/a
B. Type of Well: OIL <input checked="" type="checkbox"/> GAS <input type="checkbox"/> OTHER: SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>		8. Farm or Lease Name: Balcron Monument Federal
2. Name of Operator: Equitable Resources Energy Company, Balcron Oil Division		9. Well Number: #34-25
3. Address and Telephone Number: P.O. Box 21017; Billings, MT 59104 (406) 259-7860		10. Field and Pool, or Wildcat: Undesignated/Green River
4. Location of Well (Footages) At Surface: SW SE Section 25, T8S, R17E 800' FSL, 2100' FEL At Proposed Producing Zone:		11. Ctr/Ctr, Section, Township, Range, Meridian: SW SE 25, T8S, R17E
14. Distance in miles and direction from nearest town or post office: Approximately 10 miles southeast of myton, Utah		12. County: Uintah
15. Distance to nearest property or lease line (feet):		13. State: UTAH
16. Number of acres in lease:	17. Number of acres assigned to this well:	
18. Distance to nearest well, drilling, completed, or applied for, on this lease (feet):	19. Proposed Depth: 6,250'	20. Rotary or cable tools: Rotary
21. Elevations (show whether DF, RT, GR, etc.): GL 5007.6'		22. Approximate date work will start: 3/1/95

23. PROPOSED CASING AND CEMENTING PROGRAM				
SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
See EXHIBIT "D" Drilling Program/Casing Design				

DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

Operator intends to drill this well in accordance with the attached Federal Application for Permit to Drill.

24. Name & Signature: Bobbie Schuman Regulatory and Environmental Specialist Title: Environmental Specialist Date: 2-28-95  
Bobbie Schuman

(space for State use only)

API Number Assigned: 43-047-32670

Approval:

APPROVED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING

DATE: 3/1/95  
BY: [Signature]  
Petroleum Engineer

## LIST OF MAPS OF THE PROJECT AREA

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MAP 4: Cultural Resource Survey of Balcron Unit 14-26 in the Monument Buttes Locality of Duchesne County, Utah . . .	5

## LIST OF ARTIFACTS

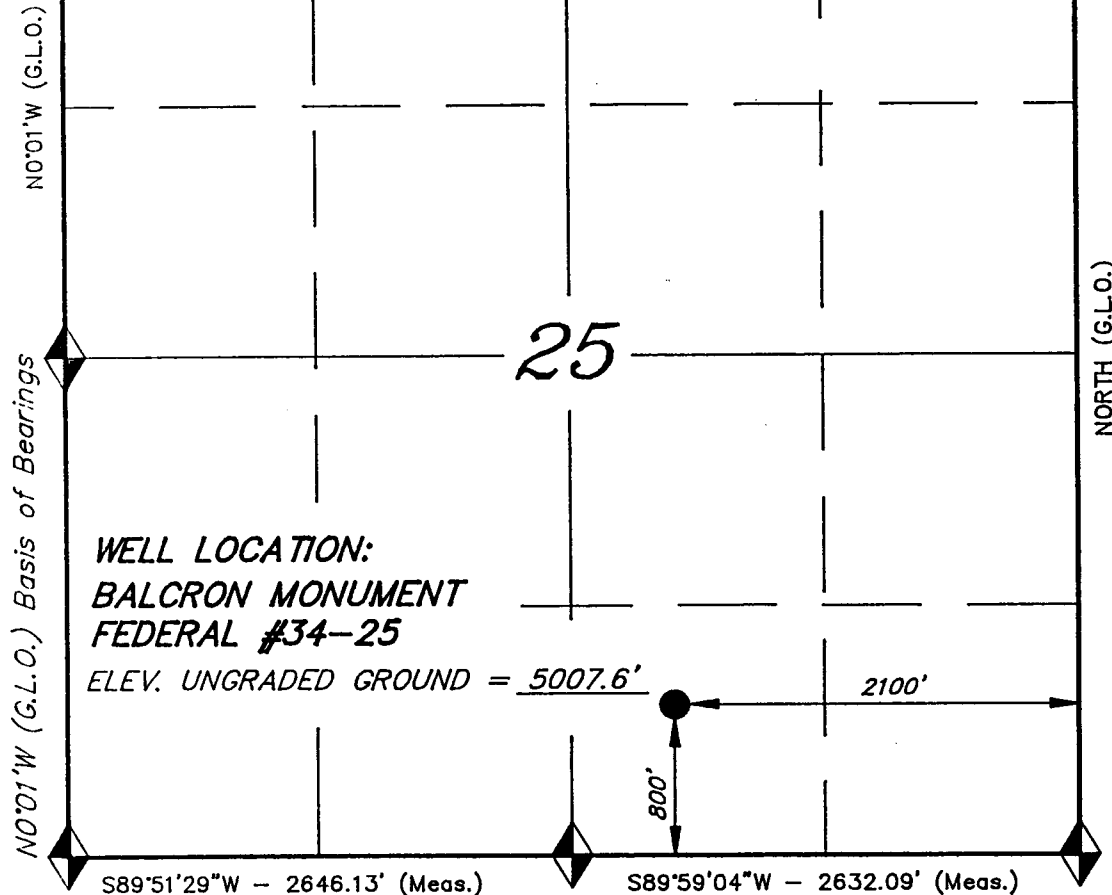
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FIGURE 1: Isolate 1461G/x1 . . . . .	9

**T8S, R17E, S.L.B.&M.**

***EQUITABLE RESOURCES ENERGY CO.***

N89°58'W - 79.90 (G.L.O.)

WELL LOCATION, BALCRON MONUMENT FEDERAL #34-25, LOCATED AS SHOWN IN THE ~~SE~~ 1/4 SE 1/4 OF SECTION 25, T8S, R17E, SW S.L.B.&M. UTAH COUNTY, UTAH.



THIS IS TO CERTIFY THAT THE ABOVE WAS PREPARED FROM FIELD NOTES OF AERIAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Stacy W. Stewart  
REGISTERED LAND SURVEYOR  
REGISTRATION No. 189377  
STATE OF UTAH

**TRI STATE LAND SURVEYING & CONSULTING**  
38 EAST 100 NORTH, VERNAL, UTAH 84078  
(801) 781-2501

SCALE: 1" = 1000'	SURVEYED BY: G.S. R.H.
DATE: 11-17-94	WEATHER: COOL
NOTES:	FILE #34-25

◊ = SECTION CORNERS LOCATED  
BASIS OF BEARINGS; G.L.O. DATED 1910  
BASIS OF ELEV; U.S.G.S. 7-1/2 min QUAD (PARIETTE DRAW SW)

EXHIBIT "K"

## **EXHIBITS**

- A      PROPOSED DRILLING PROGRAM**
- B      PROPOSED SURFACE USE PROGRAM**
- C      GEOLOGIC PROGNOSIS**
- D      DRILLING PROGRAM/CASING DESIGN/WELLBORE DIAGRAM**
- E      HAZMAT DECLARATION**
- F      EXISTING & PLANNED ACCESS ROADS (MAPS A & B)**
- G      WELLSITE LAYOUT**
- H      BOPE SCHEMATIC**
- I      EXISTING ROADS (MAP C)**
- J      PROPOSED PRODUCTION FACILITY DIAGRAM**
- K      SURVEY PLAT**
- L      LAYOUT/CUT & FILL DIAGRAM**
- M      PALEONTOLOGY REPORT**
- N      ARCHAEOLOGICAL REPORT**

1/6/95

# **CONFIDENTIAL**

**AS OPERATOR, WE HEREBY REQUEST THAT THE STATUS OF THIS WELL BE HELD TIGHT FOR THE MAXIMUM PERIOD ALLOWED BY FEDERAL AND STATE REGULATIONS.**

**Equitable Resources Energy Company  
Balcron Oil Division  
P.O. Box 21017  
Billings, MT 59104  
(406) 259-7860**

EQUITABLE RESOURCES ENERGY COMPANY  
Balcron Oil Division  
Balcron Monument Federal #34-25  
SW SE Section 25, T8S, R17E  
Uintah County, Utah

In accordance with requirements outlined in 43 CFR 3162-3.1 (d):

1. ESTIMATED IMPORTANT GEOLOGICAL MARKERS:

See Geologic Prognosis (EXHIBIT "C")

2. ESTIMATED DEPTHS OF ANTICIPATED OIL, GAS OR WATER:

See Geologic Prognosis (EXHIBIT "C")

3. OPERATOR'S MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

- a. EXHIBIT "H" is a schematic of the BOP equipment and choke manifold. A 2M system will be used. The BOPE will be installed after setting 8-5/8" casing at 260'. The blind rams and pipe rams will be tested to 1500 psi. Pipe rams will be operationally checked each 24-hour period and blind rams each time pipe is pulled out of the hole.
- b. The BOPE will be tested to 1500 psi when initially installed, whenever any seal subject to test pressure is broken, and following related repairs. The pipe and blind rams will be activated at least weekly and on every trip the pipe and blind rams will be activated.
- c. An accumulator of sufficient capacity to open the hydraulically-controlled choke valve lines (if so equipped), close all rams, and retain a minimum of 200 psi above precharge on the closing manifold without the use of the closing unit pumps will be installed during the drilling of this well.
- d. An upper kelly cock will be used during the drilling of this well.
- e. Visual mud monitoring equipment will be used to detect volume changes indicating loss or gain in circulating fluid volume.
- f. Sufficient quantities of mud materials will be maintained or readily accessible for the purpose of assuring well control.

4. PROPOSED CASING AND CEMENTING PROGRAM:

- a. Surface casing will be set in the Uinta formation to approximately 260' and cemented to surface.
- b. All potentially productive hydrocarbon zones will be isolated.
- c. Casing designs are based on factors of burst: 1.25, collapse: 1.125, and joint strength: 1.8.

- d. All casing strings will be pressure tested to 0.22 psi/ft. of casing string length or 1500 psi whichever is greater (not to exceed 70% of yield).
- E. For details of casing, cement program, drilling fluid program, and proposed mud program, see the following attachment:

Drilling Program/Casing Design (EXHIBIT "D")

5. HAZARDOUS PRESSURES, TEMPERATURES, FLUIDS/GASSES EXPECTED:

- a. Expected bottom hole temperature is 125 degrees F. Expected bottom hole pressure is 1500 psi.
- b. No abnormal pressures or temperatures have been noted or reported in wells drilled to the Green River formation in this area.
- c. No dangerous levels of hydrogen sulfide, hazardous fluids, or gasses have been found, reported, or known to exist at the depth to be drilled in this well, in this area.

6. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

- a. The drilling operations for this well will begin as soon after APD approval as possible.
- b. These drilling operations should be completed within 12 days after spudding the well depending on weather and hole conditions.
- c. If the well is productive, a sundry notice and plat showing exact installed facilities will be submitted.
- d. If this well is non-productive, a sundry notice will be filed with the BLM District Office within 30 days following completion of the well for abandonment.

7. OTHER

- a. Operator requests a variance to regulations requiring a straight run blooie line.
- b. Operator requests a variance to regulations requiring an automatic ignitor or continuous pilot light on the blooie line.

**SURFACE USE PROGRAM**

EQUITABLE RESOURCES ENERGY COMPANY  
Balcron Oil Division  
Balcron Monument Federal #34-25  
SW SE Section 25, T8S, R17E  
Uintah County, Utah

In accordance with requirements outlined in 43 CFR 3162.3-1 (d):

1. **EXISTING ROADS:**

- a. From Myton, Utah, take Highway #40 west out of town 1.6 miles to the Sand Wash road. Go south on the Sand Wash road for approximately 10.7 miles to a road intersection. Turn left and continue 3.7 miles to a road intersection. Stay right and proceed 0.4 miles to proposed access road sign. Follow flags 0.4 miles to location.
- b. Existing roadways need no improvements for these drilling operations.
- c. All existing roads used by these drilling operations will be maintained in the same or better condition as were existing prior to entry.
- d. See EXHIBIT "F" Maps A and B for access route.

2. **PLANNED ACCESS ROADS:** See EXHIBIT "F" Maps A & B

- a. Length: Approximately 0.4 miles of new access road will be required.
- b. Width: Maximum 30' overall right-of-way with an 18' running surface.
- c. Maximum grade: < 8%
- d. Turnouts: None
- e. Drainage design: Low water crossing if necessary.
- f. No culverts or bridges will be required.
- g. Surface materials: Any surface materials which are required will be native materials from the location and/or access site.
- h. No gates, cattleguards, or fence cuts and/or modifications to existing facilities will be required.

- i. All travel will be confined to location and access routes.
- j. All access roads and surface disturbing activities will conform to the standards outlined in the Bureau of Land Management and Forest Service publication: Surface Operating Standards for Oil and Gas Exploration and Development, (1989).

The road shall be constructed/upgraded to meet the standards of the anticipated traffic flow and all-weather road requirements. This shall include ditching, draining, graveling, crowning, and capping the roadbed as necessary to provide a well-constructed safe road. If necessary prior to upgrading, the road shall be cleared of any snow cover and allowed to dry completely. Road drainage crossings will be of the typical dry creek draining crossing type. Crossings, if necessary, will be designed so they will not cause siltation or accumulation of debris in the drainage crossing nor shall the drainages be blocked by the roadbed. Erosion of drainage ditches by runoff water shall be prevented by diverting water off at frequent intervals by means of cutouts. Upgrading will not be done during muddy conditions. Should mud holes develop, they will be filled in and detours around them will be avoided.

1. If a right-of-way is needed for access, please consider this Application for Permit to Drill as the application for right-of-way.

3. LOCATION OF EXISTING WELLS:

See EXHIBIT "I" Map C.

4. LOCATION OF EXISTING AND/OR PROPOSED PRODUCTION FACILITIES:

- a. Upon completion, a sundry notice and plat showing exact production facilities will be submitted.
- b. All above-ground facilities will be painted earthtone color Desert Brown #10Y/R in accordance with the Munsell Soil Color chart within six months of the well completion unless prior written approval to proceed with another alternative has been granted via Sundry Notice.
- c. See EXHIBIT "J" for the Proposed Production Facility Diagram.

5. LOCATION AND TYPE OF WATER SUPPLY:

- a. The drilling water source will be obtained from a private source owned by Joe Shields.
- b. The drilling water will be hauled by truck to the location site.

6. CONSTRUCTION ROAD/LOCATION MATERIALS:

- a. Any construction materials which are required will be native materials from the location and/or access site.
- b. All construction materials for this location site and access road shall be borrowed material accumulated during the construction of the site and road. No additional construction material from other sources is anticipated at this time. If additional construction material is needed, it will be from an approved source.
- c. Reasonable precautions will be taken to protect all lands.

7. METHODS FOR HANDLING WASTE MATERIALS AND DISPOSAL:

- a. Garbage will be stored in a dumpster and disposed of according to local and state regulations, at an approved facility. Disposal will not be allowed on location. No trash will be disposed of in the reserve pit.
- b. Fluids produced during the completion operation will be collected in test tanks. Any spills of oil, gas, salt water or other noxious fluids will be cleaned up and hauled to an approved disposal site. Burning will not be allowed.
- c. The reserve pit will be lined. If a plastic nylon reinforced liner is used, it will be torn and perforated before backfilling of the reserve pit.
- d. Saltwater or testing tanks will be located and/or diked so that any spilled fluids will flow into the reserve pit. Saltwater tanks will not be placed on topsoil stockpiles.
- e. Any produced water will be contained on site for a period not to exceed 90 days.
- f. Sewage will be disposed of according to county and state requirements. Sealed chemical portable toilets will be on location during these drilling operations. Waste and chemicals will not be disposed of on location.
- g. Cuttings will be deposited in the reserve pit.

8. ANCILLARY FACILITIES:

None anticipated.

9. LOCATION SITE LAYOUT:

- a. The proposed location site and elevation plat is shown on EXHIBIT "K".

- b. The drill pad layout, showing elevations, orientation, and access to the pad is shown on EXHIBIT "L".
- c. The drilling rig facilities layout is shown on EXHIBIT "G". No permanent living facilities are planned. There will be two or three trailers on location during drilling operations.
- d. The reserve pit and the blooie pit will be constructed as a combination pit capable of holding 12,000 bbls of fluid. The size of the pit will be approximately equivalent to four times the TD hole volume. The blooie pit might be used for testing, but only after the drilling is completed and the drilling equipment and personnel are off the location.
- e. The reserve pit will be located on the West side of the location.
- f. If needed, flare pit will be located downwind of the prevailing wind directions a minimum of 100' from the wellhead and 30' from the reserve pit fence.
- g. Stockpiled topsoil (first 6 inches) will be stored on the South side near corner 3.
- h. Access to the wellpad will be from the SW near corner #4.
- i. The South corner (#2) will be rounded to avoid fill.
- j. All pits will be fenced according to the following minimum standards:
  - a. 39-inch net wire will be used with at least one strand of barbed wire on top of the net wire unless pipe or some type of reinforcement rod is attached to the top of the entire fence.
  - b. The net wire shall be no more than 2 inches above the ground. If barbed wire it shall be 3 inches above the net wire. Total height of fence will be at least 42 inches.
  - c. Corner posts will be cemented and/or braced in such a manner to keep the fence tight at all times. Standard steel, wood, or pipe posts will be used between the cornerbraces. Maximum distance between any two posts will be no greater than 16'.
  - d. All wire will be stretched before it is attached to the corner posts.

The reserve pit will be fenced on three sides during drilling operations and on the fourth side when the rig moves off locations. Pits will be fenced and maintained until clean-up.

10. PLANS FOR RECLAMATION OF LOCATION SITE:

The BLM will be contacted prior to commencement of any reclamation operations.

Producing location:

- a. Immediately upon well completion, the location and surrounding areas will be cleared of all unused tubing, equipment, debris, materials, trash, and junk not required for production.
- b. Immediately upon well completion, any hydrocarbons in the pit will be removed in accordance with 43 CFR 3162.7-1.
- c. If a plastic nylon reinforced liner is used, it will be torn and perforated before backfilling of the reserve pit.
- d. The reserve pit and that portion of the location not needed for production facilities or operations will be recontoured to the approximate natural contours. The reserve pit will be reclaimed within 120 days from the date of well completion. Before any dirt work takes place, the reserve pit will have all fluids and hydrocarbons removed and all trash will be removed.

Dry hole/abandoned location:

At such time as the well is plugged and abandoned, operator will submit a subsequent report of abandonment and BLM will attach the appropriate surface rehabilitation conditions of approval.

11. SURFACE OWNERSHIP:

Bureau of Land Management  
Vernal District Office  
170 South 500 East  
Vernal, UT 84078

12. OTHER INFORMATION:

- a. Archeological Survey and Paleontological surveys are part of this APD.
- b. If unexpected cultural resources are observed during construction or reclamation operations, Equitable Resources Energy Company's Balcron Oil division will suspend operations in the vicinity of the discovery and immediately report the finding to the BLM District Office.
- c. Operator will have on site a copy of the Surface Use Program and a copy of the supplemental conditions.
- d. Drilling operations will be conducted in accordance with the Bureau of Land Management conditions of approval when received.

- e. At the onsite it was determined that one silt catchment dam will be constructed approximately 60' from the SE corner of the location where flagged by the BLM.

13. OPERATOR'S REPRESENTATIVES:

Equitable Resources Energy Company, Balcron Oil Division  
1601 Lewis Avenue  
P.O. Box 21017  
Billings, Montana 59104  
(8:00 a.m. to 5:00 p.m.)  
(406) 259-7860  
FAX: (406) 245-1361

Dave McCoskery, Operations Manager      Home: (406) 248-3864  
Mobile: (406) 698-3732

Dale Griffin, Operations Supervisor      Mobile: (801) 828-7291  
Home: (801) 781-1018

14. CERTIFICATION:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that any statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Balcron Oil, a division of Equitable Resources Energy Company, and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

February 28, 1995  
Date

Bobbie Schuman  
Bobbie Schuman  
Regulatory and Environmental  
Specialist  
Equitable Resources Energy  
Company, Balcron Oil Division

/rs

# Balcron Oil Well Prognosis

EXHIBIT "C"

<b>Well Name</b>	BALCRON MONUMENT FEDERAL # 34-25		<b>Exploratory</b>		<b>Control Well</b>	BMF #23-25
<b>Location</b>	SW SE SECTION 25-T8S-R17E	800' FSL, 2100' FWL	<b>Development</b>	X	<b>Operator</b>	EREC-BOD
<b>County</b>	UINTAH		<b>Field</b>	PAR DRAW	<b>KB</b>	5002
<b>State</b>	UTAH		<b>Section</b>	SWSE 25	<b>Section</b>	NESW 25
<b>Total Depth</b>	6250		<b>Township</b>	8S	<b>Township</b>	8S
<b>GL (Ung)</b>	5007.6	EST. KB 5016	<b>Range</b>	17E	<b>Range</b>	17E

Formation Tops	Prognosis		Sample Top		Control Well	High/Low		
Formation	Depth	Datum	Depth	Datum	Datum	Prog	Cntl	Deviation
UINTA	SURFACE							
GREEN RIVER	1708	3308			3288			
HORSEBENCH SS	2644	2372			2352			
2ND GARDEN GULCH	4182	834			814			
YELLOW MARKER	4790	226			206			
DOUGLAS CREEK	4964	52			32			
R-5 SAND (PAY)	5154	-138			-158			
2ND DOUGLAS CREEK	5224	-208			-228			
G-1 SAND (PAY)	5293	-277			-297			
GREEN MARKER	5394	-378			-422			
CARBONATE MARKER	5778	-762			-782			
B-1 SAND (PAY)	5818	-802			-822			
B-2 SAND (PAY)	5877	-861			-881			
UTELAND BUTTE LIME	6182	-1166			NDE			
TD	6250							

<b>Samples</b>	<b>DST,s</b>	<b>Wellsite Geologist</b>
50' FROM 1650' TO 4200'	DST #1 NONE	Name: _____
30' FROM 4200' TO TD	DST #2 _____	From: _____ to: _____
5' THROUGH EXPECTED PAYS	DST #3 _____	Address: _____
5' DRILLING BREAKS	DST #4 _____	Phone # _____
		_____ wk.
		_____ hm.

<b>Logs</b>	<b>Cores</b>	
DLL FROM SURF CSG TO TD	Core #1 NONE	Fax # _____
LDT/CNL FROM 3900' TD	Core #2 _____	
	Core #3 _____	
	Core #4 _____	

<b>Comments:</b> _____	<b>Mud Logger/Hot Wire</b>
	Company: _____
	Required: (Yes/No) <u>YES</u>
	Type: <u>TWO MAN</u>
	Logger: _____
	Phone # _____
	Fax # _____
<b>Report To:</b> 1st Name: <u>DAVE BICKERSTAFF</u>	Phone # (406) 259-7860 wk. 245-2261 hm.
2nd Name: <u>KEVEN REINSCHMIDT</u>	Phone # " wk. 248-7026 hm.
<b>Prepared By:</b> <u>K.K. REINSCHMIDT</u> 2/27/95	Phone # _____ wk. _____ hm.

DRILLING PROGRAM

WELL NAME: Balcron Monument Fed 34-25 PROSPECT/FIELD: Par Draw  
LOCATION: SW SE Sec.25 Twn.8S Rge.17E  
COUNTY: Uintah STATE: Utah

TOTAL DEPTH: 6250

HOLE SIZE INTERVAL

12 1/4" 0 to 260'  
7 7/8" 260 to 6250'

CASING	INTERVAL		CASING		
STRING TYPE	FROM	TO	SIZE	WEIGHT	GRADE
Surface Casing	0	260	8 5/8"	24 #/Ft	J-55
Production Casing	0	6250	5 1/2"	15.50#/Ft	K-55
(All Casing will be new, ST&C)					

CEMENT PROGRAM

Surface 225 sacks Class "G" with 2% CaCl and 1/4 #/Sk Flocele.  
(Cement will be circulated to surface.)

Production 250 sacks Thifty Lite and 400 sacks 50-50 Poz mix.  
(Top of cement will be 2000')

PRELIMINARY  
DRILLING FLUID PROGRAM

TYPE	FROM	TO	WEIGHT	PLAS. VIS	YIELD POINT
Air and air mist	0	260	N.A.	N.A.	N.A.
Air/Air Mist/KCl Water	260	T.D.	8.7-8.9	N.A.	N.A.

Drilling will be with air from surface to as deep as hole conditions allow. 2% KCl fluid will be used for the remainder of the hole.

COMMENTS

- 1.) No cores or DST's are planned.

<b>Operator: BALCRON OIL</b>	<b>Well Name: Monument Fed. 34-25</b>
<b>Project ID:</b>	<b>Location: Uintah/Utah</b>

Design Parameters:

Mud weight ( 8.60 ppg) : 0.447 psi/ft  
 Shut in surface pressure : 2167 psi  
 Internal gradient (burst) : 0.100 psi/ft  
 Annular gradient (burst) : 0.000 psi/ft  
 Tensile load is determined using air weight  
 Service rating is "Sweet"

Design Factors:

Collapse : 1.125  
 Burst : 1.00  
 8 Round : 1.80 (J)  
 Buttress : 1.60 (J)  
 Body Yield : 1.50 (B)  
 Overpull : 0 lbs.

Length (feet)		Size (in.)	Weight (lb/ft)	Grade	Joint	Depth (feet)	Drift (in.)	Cost	
1	6,250	5-1/2"	15.50	K-55	ST&C	6,250	4.825		
	Collapse Load (psi)	Strgth (psi)	S.F.	Burst Load (psi)	Min Int Strgth (psi)	Yield S.F.	Tension Load (kips)	Strgth (kips)	S.F.
1	2792	4040	1.447	2792	4810	1.72	96.88	222	2.29 J

Prepared by : McCoskery, Billings, MT

Date : 02-27-1995

Remarks :

Minimum segment length for the 6,250 foot well is 1,500 feet.

The mud gradient and bottom hole pressures (for burst) are 0.447 psi/ft and  
2,792 psi, respectively.

**NOTE:** The design factors used in this casing string design are as shown above. As a general guideline, Lone Star Steel recommends using minimum design factors of 1.125 - Collapse (with evacuated casing), 1.0 - Burst, 1.8 - 8 Round Tension, 1.6 - Buttress Tension, and 1.5 - Body Yield. Collapse strength under axial tension was calculated based on the Westcott, Dunlop and Kemler curve. Engineering responsibility for use of this design will be that of the purchaser. Costs for this design are based on a 1990 pricing model. (Version 1.0G)

EXHIBIT E

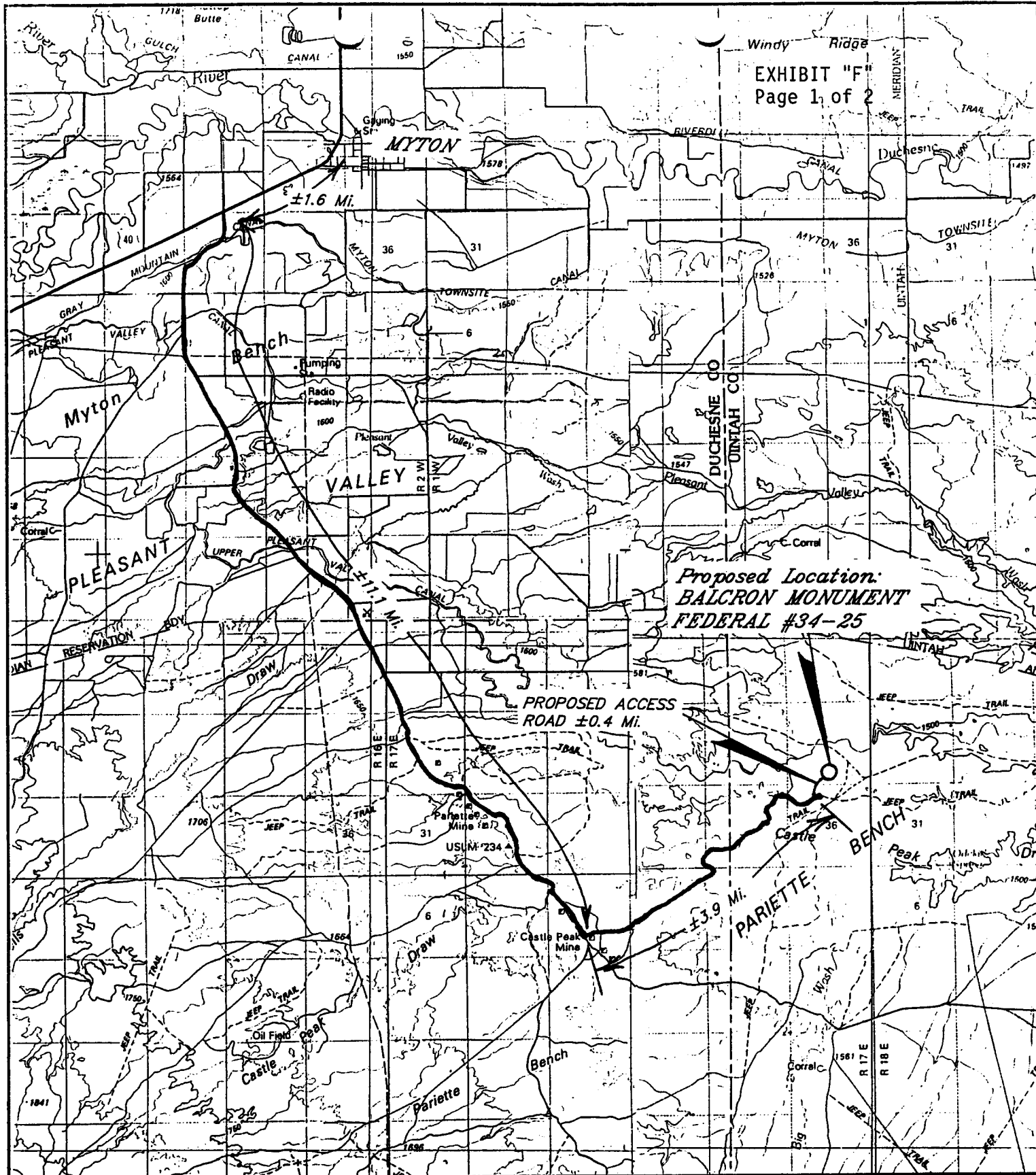
- A. Hazardous chemicals 10,000 pounds of which will most likely be used, produced, stored, transported, or disposed of in association with the proposed action of drilling, completing and producing this well:

We anticipate that none of the hazardous chemicals in quantities of 10,000 pounds or more will be associated with these operations.

- B. Extremely hazardous substances threshold quantities (per Howard Cleavinger 11/30/93) of which will be used, produced, stored, transported, or disposed of in association with the proposed action of drilling, completing and producing this well:

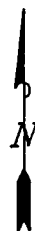
We anticipate that none of the extremely hazardous substances in threshold quantities per 40 CFR 355 will be associated with these operations.

12/1/93  
Revised 12/7/93  
/rs

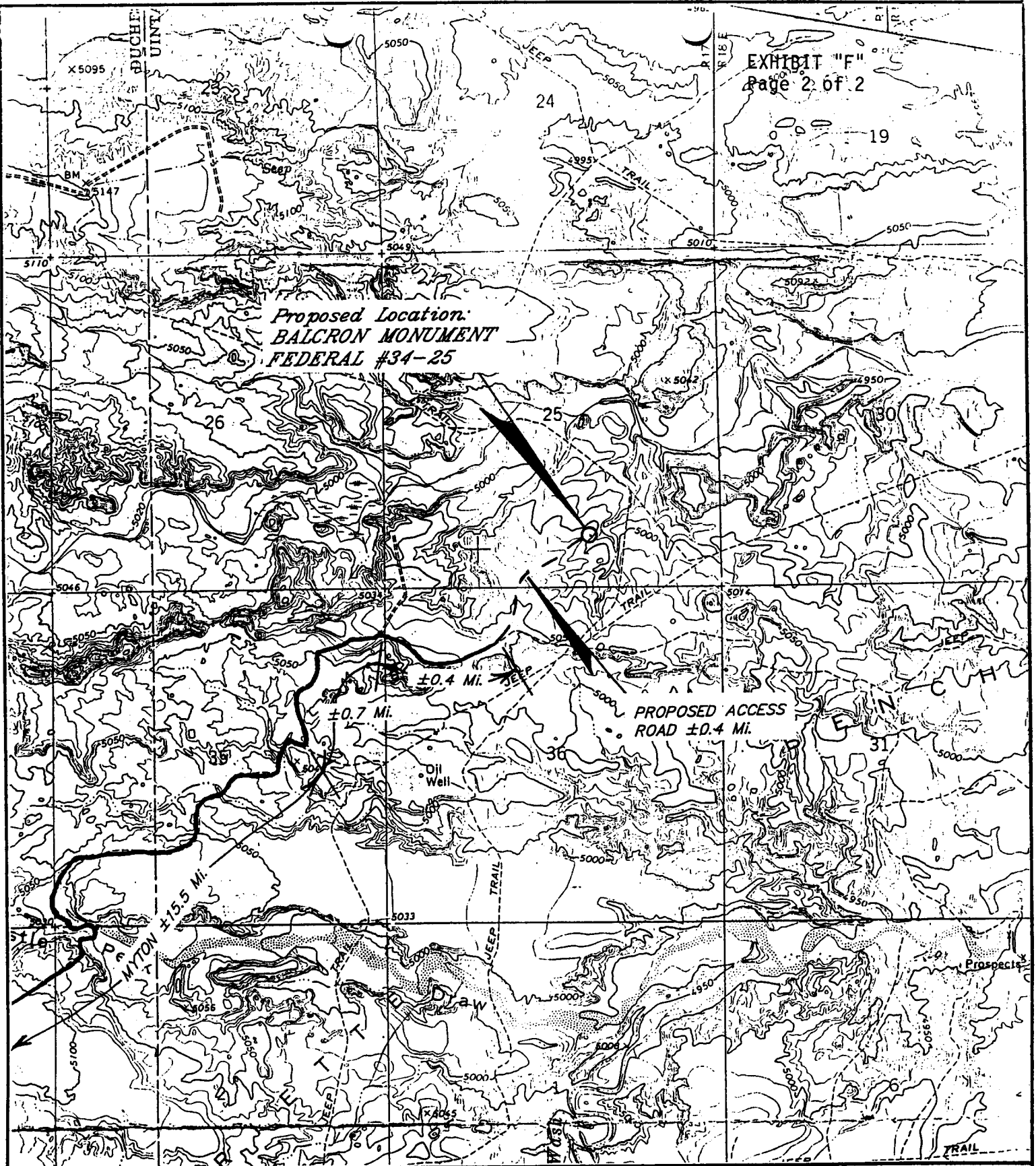


# EQUITABLE RESOURCES CO.

BALCRON MONUMENT FEDERAL #34-25  
SECTION 25, T8S, R17E, S.L.B.&M.  
TOPO "A"



**Tri State**  
Land Surveying, Inc.  
(801) 781-2501  
38 WEST 100 NORTH VERNAL, UTAH 84078



***EQUITABLE RESOURCES CO.***

BALCRON MONUMENT FEDERAL #34-25  
SECTION 25, T8S, R17E, S.L.B. & M.  
TOPO "B"

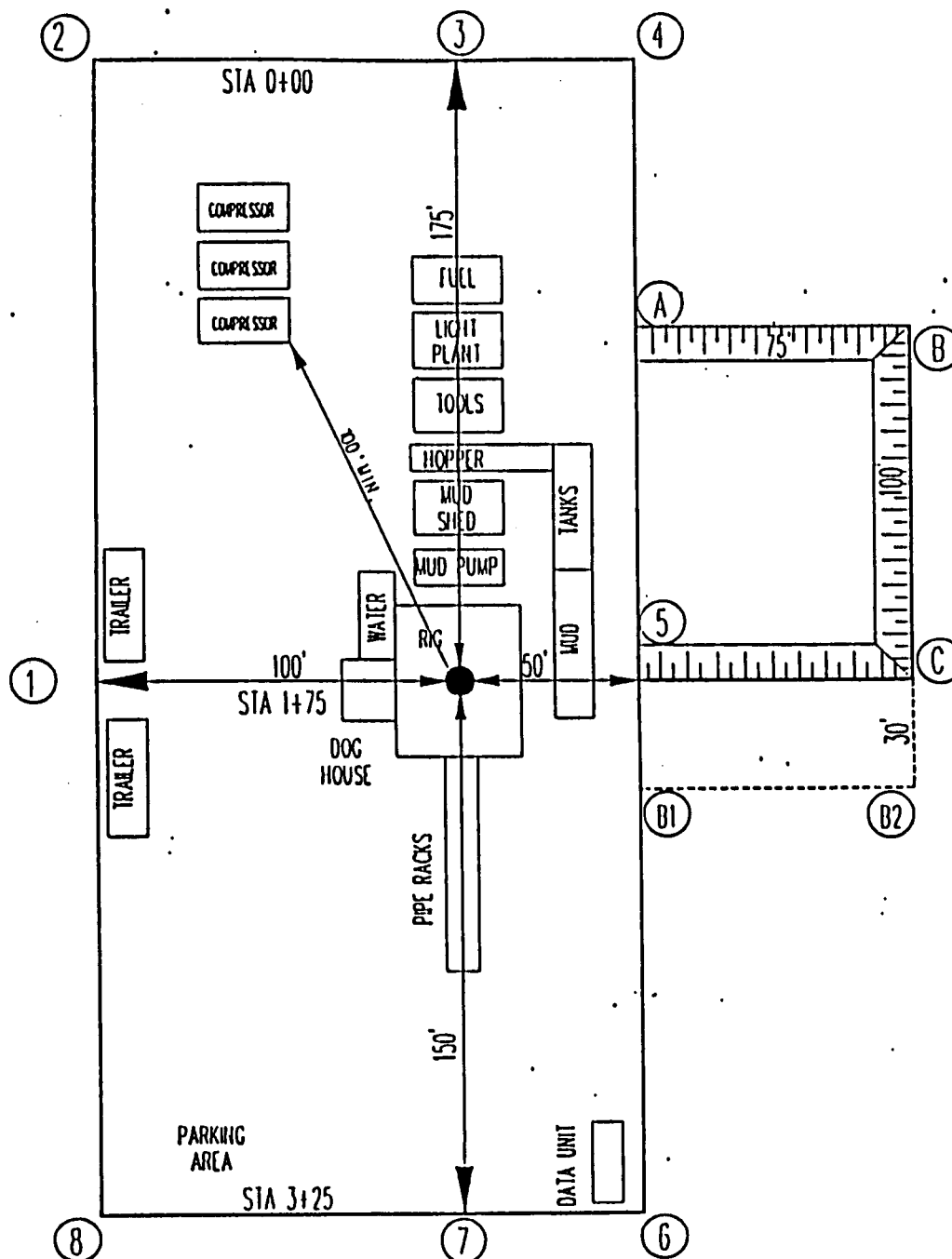


SCALE: 1" = 2000'

***Tri State***  
Land Surveying, Inc.  
(801) 781-2501  
38 WEST 100 NORTH VERNAL, UTAH 84078

# EQUITABLE RESOURCES ENERGY CO.

## WELLSITE LAYOUT



**TRI-STATE**  
**LAND SURVEYING, INC.**  
 38 WEST 100 NORTH, VERMILION, UTAH 84078  
 801-781-2501

UNION DRILLING RIG #17

Hex Kelly -

Rotating Head

Adj. Choke

Air Bowl

7" Flowline

#3000  
Blind Rm. Pipe Rm

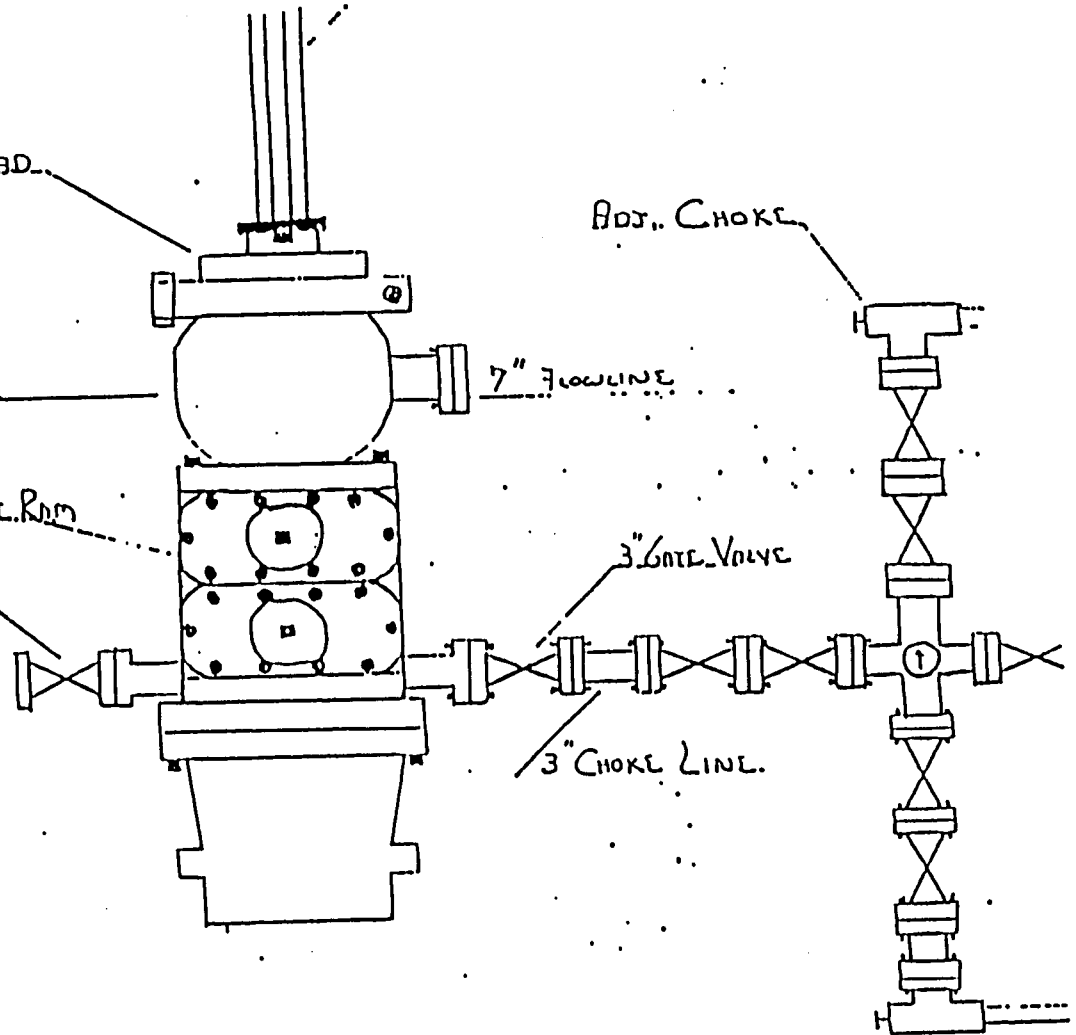
3" Gate Valve

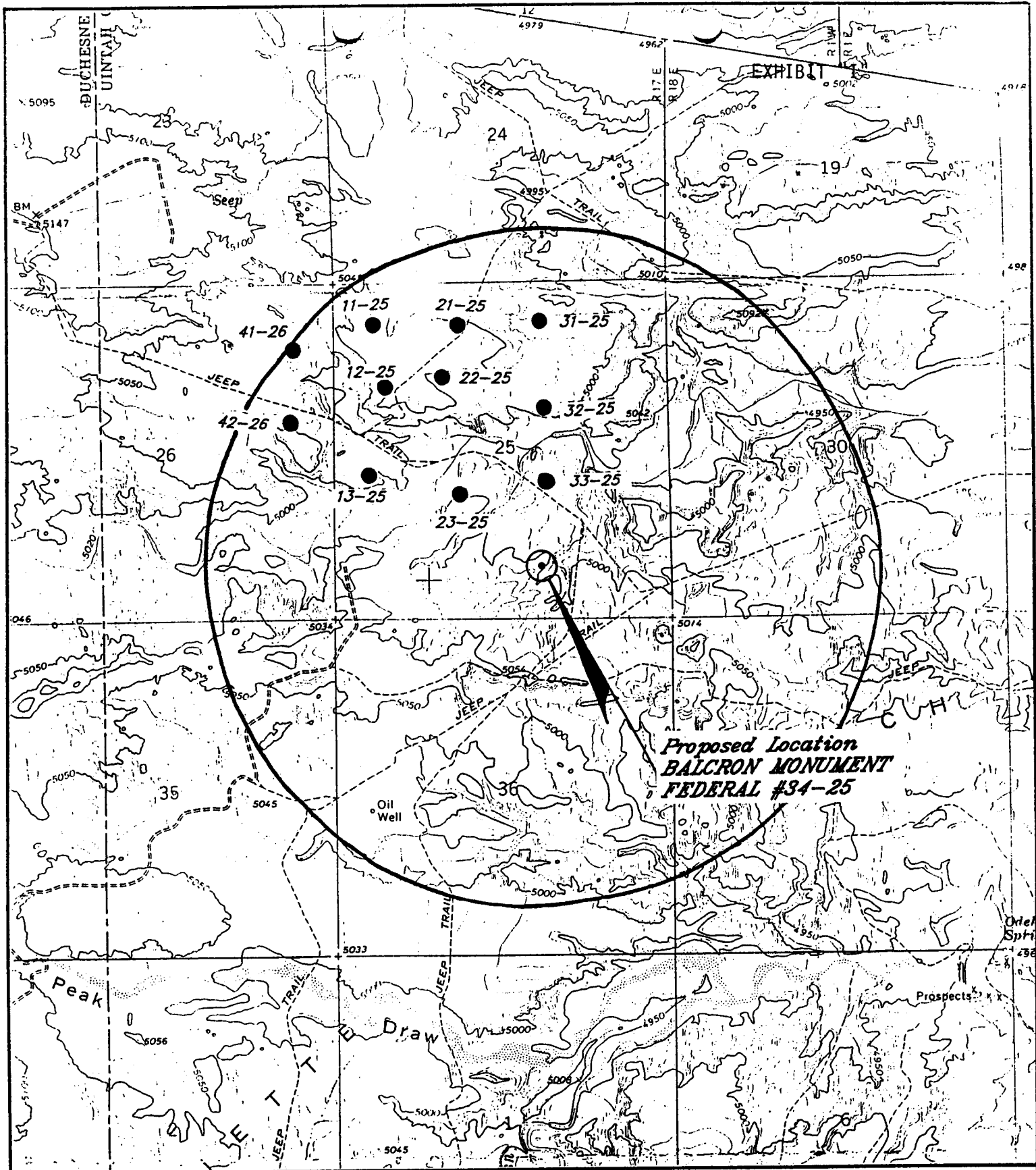
3" Gate Valve

3" Choke Line

Adj. Choke

#3000 Stack





***EQUITABLE RESOURCES ENERGY CO.***

***BALCRON MONUMENT FEDERAL #34-25  
SECTION 25, T8S, R17E, S.L.B.&M.  
TOPO "C"***



SCALE: 1" = 2000'

***Tri State***  
Land Surveying, Inc.  
(801) 781-2501  
38 WEST 100 NORTH VERNAL, UTAH 84078

**Equitable Resources Energy Company**  
**Balcron Monument Federal 34-25**  
**Proposed Production Facility Diagram**

EXHIBIT "J"

**Balcron Monument Federal 34-25**  
**SW SE Sec. 25, T8S, R17E**  
**Uintah County, Utah**  
**Federal Lease # U-67845**  
**800' FSL, 2100' FEL**

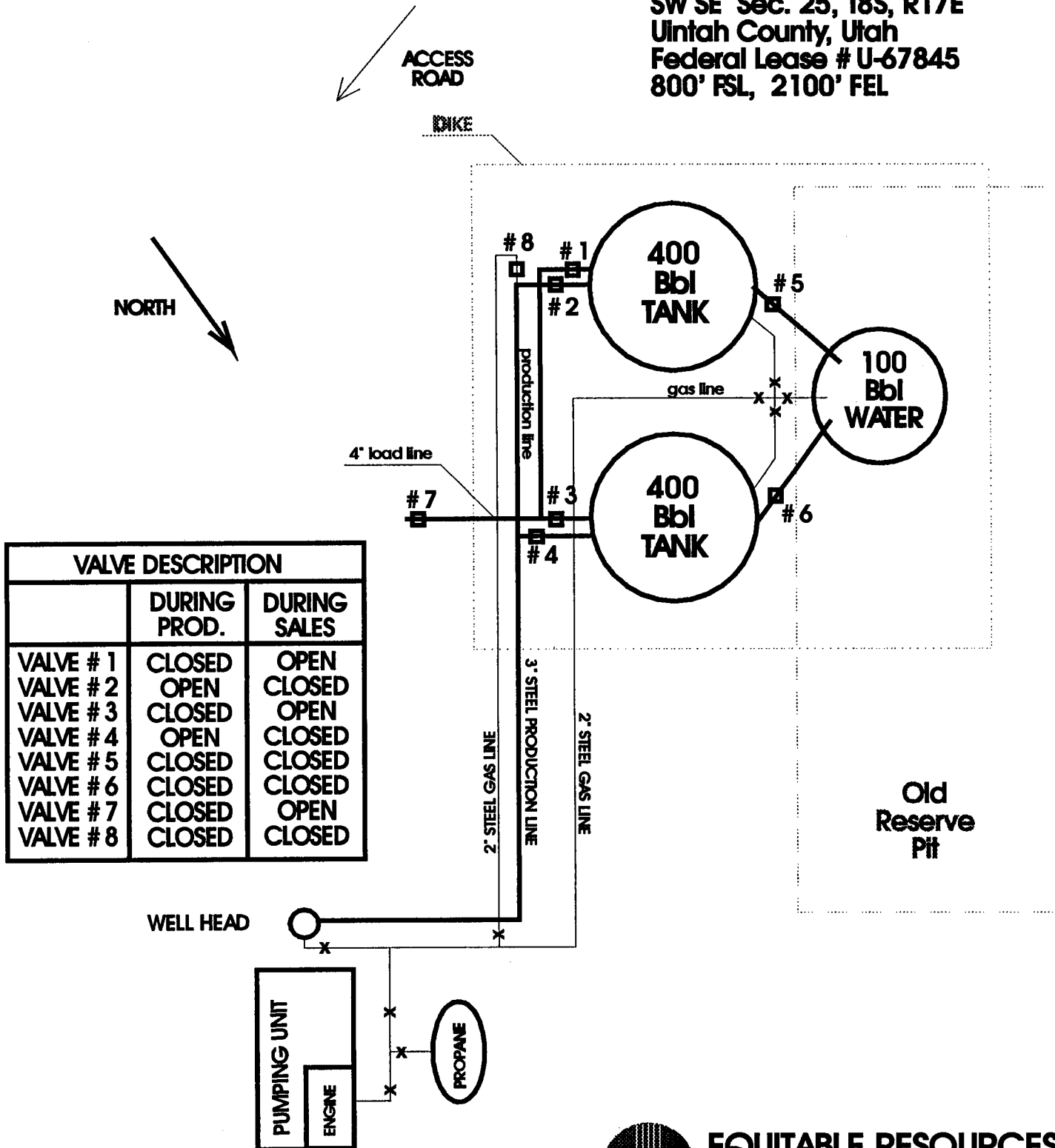
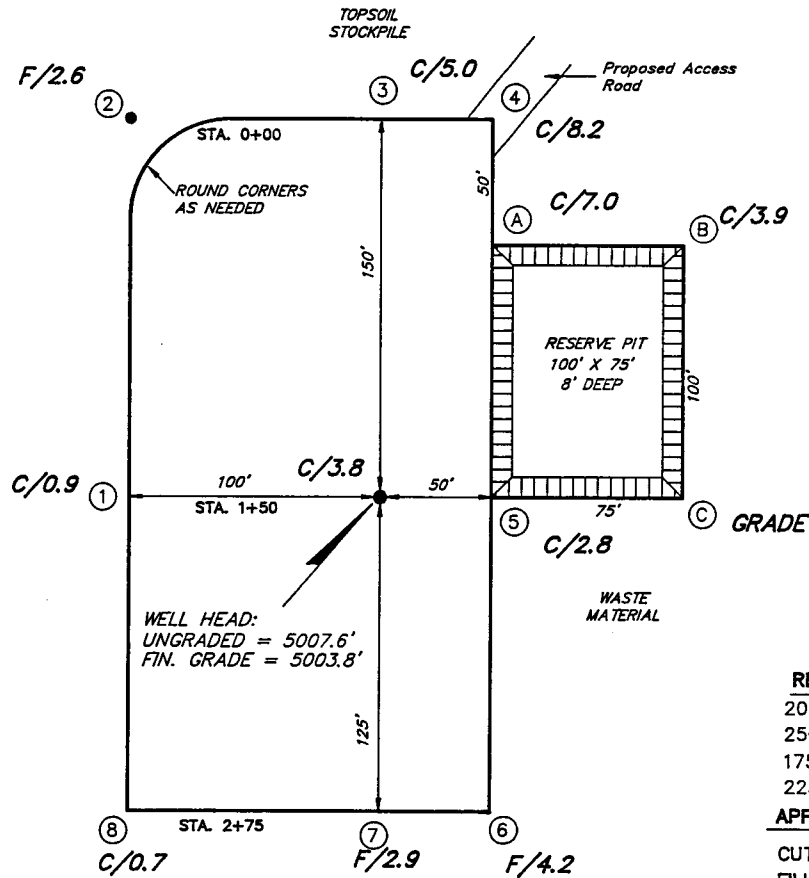


DIAGRAM NOT TO SCALE



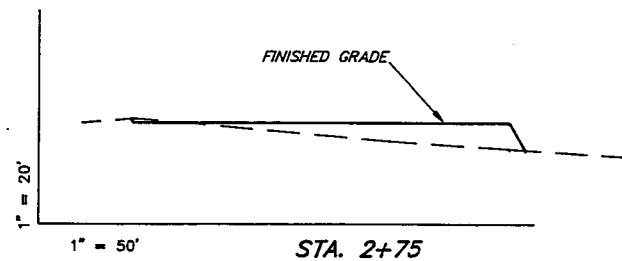
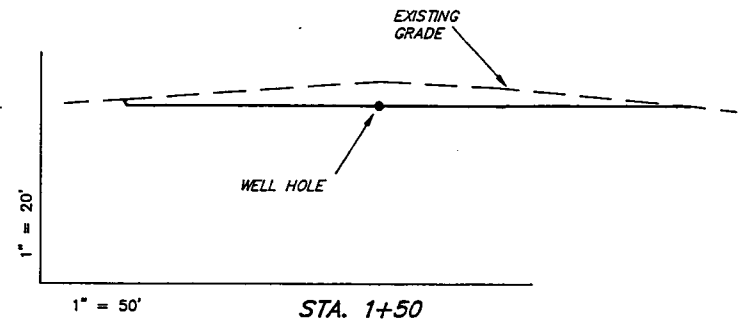
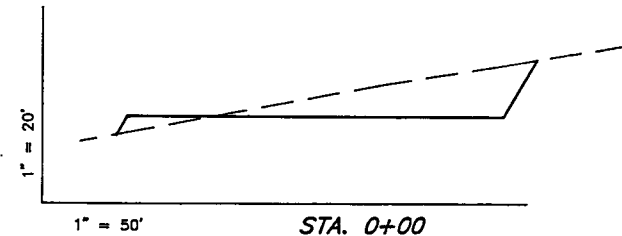
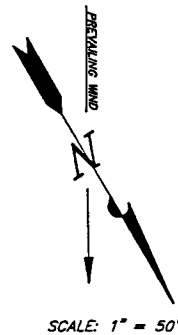
**EQUITABLE RESOURCES**  
**ENERGY COMPANY**  
**BALCRON OIL DIVISION**  
 1601 Lewis Avenue  
 P.O. Box 21017  
 Billings, MT 59104-1017  
 (406) 259-7860

**EQUITABLE RESOURCES ENERGY CO.**  
**BALCRON MONUMENT FEDERAL #34-25**  
**SECTION 25, T8S, R17E, S.L.B.&M.**



**REFERENCE POINTS**  
 200' SOUTHWEST 5006.94'  
 250' SOUTHWEST 5010.08'  
 175' NORTHWEST 5001.50'  
 225' NORTHWEST 4997.98'

**APPROXIMATE YARDAGES**  
 CUT = 4270 Cu. Yds.  
 FILL = 970 Cu. Yds.  
 PIT = 1,940 Cu. Yds.  
 6" TOPSOIL = 900 Cu. Yds.



SURVEYED BY: G.S. R.H.
DRAWN BY: R.E.H.
DATE: 11-16-94
SCALE: 1" = 50'
FILE: 34-25

**Tri State**  
**Land Surveying, Inc.**  
 (801) 781-2501  
 38 WEST 100 NORTH VERNAL, UTAH 84078

**BALCRON OIL**

**Balcron Monument Federal #34-25**

**SW SE Section 25, T8S, R17E, SLB&M**

**Uintah County, Utah**

**PALEONTOLOGY REPORT**

**WELLPAD LOCATION AND ACCESS ROAD**

**BY**

**ALDEN H. HAMBLIN  
PALEONTOLOGIST  
235 EAST MAIN  
VERNAL, UTAH 84078**

**DECEMBER 28, 1994**

RESULTS OF PALEONTOLOGY SURVEY AT BALCRON MONUMENT BUTTE FEDERAL #34-25  
SW, SE Section 25, T8S, R17E, SLB&M, Uintah County, Utah.

Description of Geology and Topography-

This well is located 7 miles south and 5.5 miles east of Myton, Utah. It sits on a low northeast trending ridge with gully east of the location. The area has a clayey-silt with interbedded sandstone which is eroding to form a thin ground cover of sandy silt and angular rock fragments.

All rock outcrops in the general area are of the Upper Eocene Uinta Formation, known for its fossil vertebrate fauna of mammals, turtles, crocodilians, and occasional fish remains and plant impressions.

Paleontological material found -

The rusty sandstone northeast of the location has a potential for plant impressions. Several small pieces of petrified wood were found in that area also (160 feet 38 degrees northeast of the center stake). One piece (1.5" X 1") of Trionyx turtle was seen 110 feet 19 degrees northeast of the center stake.

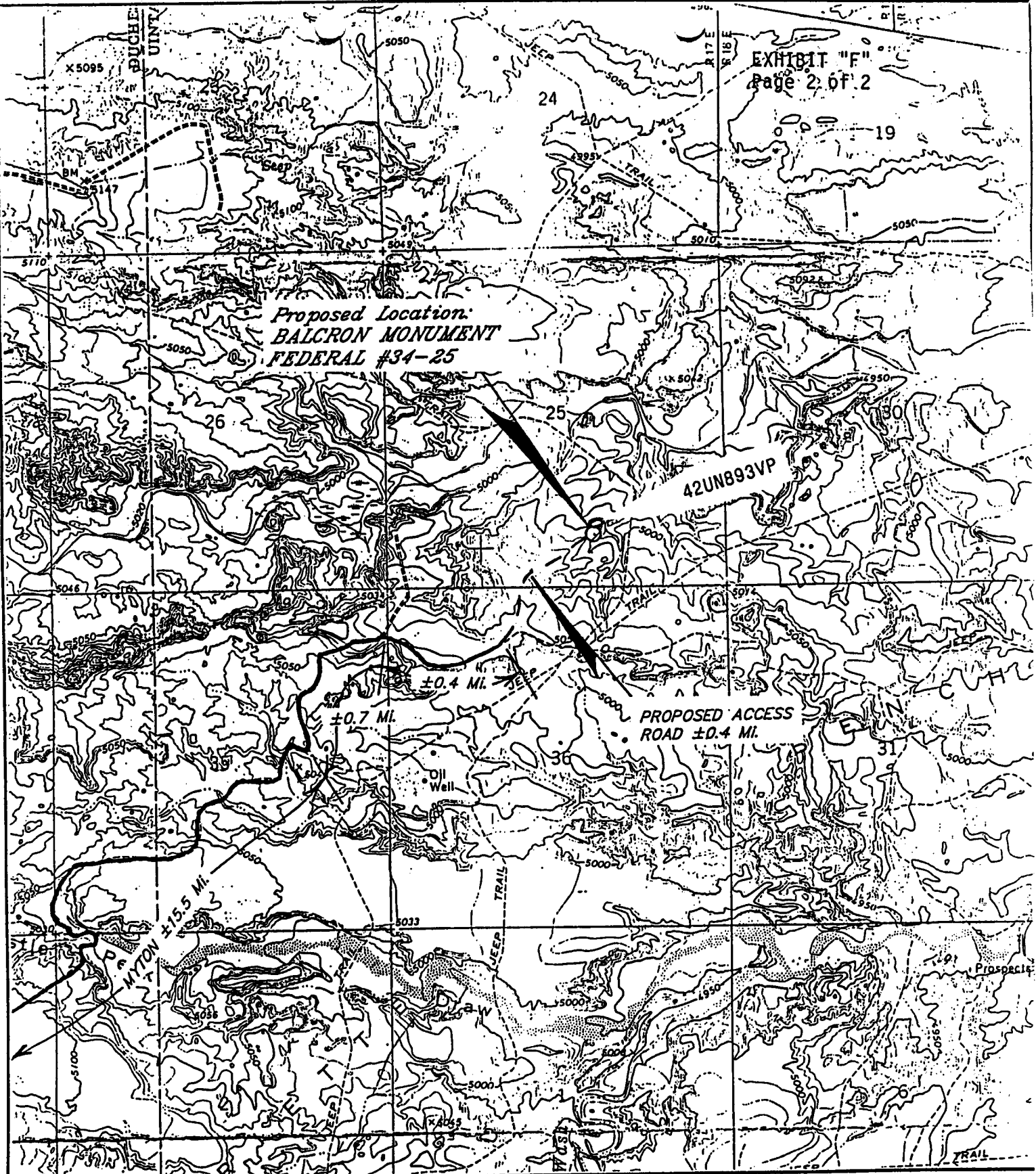
Recommendations-

No other recommendations are made for this location.

Alden H. Hamblin

Date December 29, 1994

<b>PALEONTOLOGY LOCALITY</b> <b>Data Sheet</b>					Page 1 of 1 plus map										
					State Local. No. 42 UN 893V										
					Agency No. BALCRON OIL										
					Temp. No WELL #34-25										
1. Type of locality				Plant				Vertebrate		X		Trace		Other _____	
2. Formation: UINTA				Horizon: Lower U. (B)				Geologic Age: Late Eocene							
<b>3. Description of Geology and Topography:</b> This well sits on a low northeast trending ridge with gully east of the location. The area has a clayey-silt with interbedded sandstone which is eroding to form a thin ground cover of sandy silt and angular rock fragments. Rocks in the area are composed of interbedded mudstone, and sandstone. Rock outcrops on upper canyon walls are Upper Eocene Uinta Formation, known for its fossil vertebrate fauna of mammals, turtles, crocodilians, and occasional fish remains and plant impressions.															
4. Location of Outcrop: 7 miles south and 6 miles east of Myton, Utah.															
5. Map Ref.		USGS Quad		Pariette Draw SW, Utah				Scale		7.5 Min		Edition		1964	
N1/2		of		SW1/4		of		SE1/4		of Sectn		25		T 8 S R 17E Meridn SLB	
6. State: UTAH				County: UINTAH COUNTY				BLM/FS District: VERNAL- DIAMOND MT.							
7. Specimens Collected and Field Accession No. NONE															
8. Repository:															
<b>9. Specimens Observed and Disposition:</b> The rusty sandstone northeast of the location has a potential for plant impressions. Several small pieces of petrified wood were found in that area also (160 feet 38 degrees northeast of the center stake). One piece (1.5" X 1") of Trionyx turtle was seen 110 feet 19 degrees northeast of the center stake.															
10.Owner:															
Private		State		BLM		X		US FS		NPS		IND		MIL OTHR	
11.Recommendations for Further Work or Mitigation: NONE															
12.Type of Map Made by Recorder:															
13.Disposition of Photo Negatives:															
<b>14.Published References:</b> Hamblin, A. H., 1992, Paleontology Report on the Monument Butte EA Study Area, for Mariah Associates, Laramie, Wyoming. Hamblin, A. H., 1987, Paleogeography and paleoecology of the Myton Pocket, Uinta Basin, Utah (Uinta Formation - Upper Eocene): BYU Geology Studies vol. 34, no. 1, p. 33-60. Hamblin, A. H., 1994, Paleontology Report on the Monument Butte Expansion EA Study Area, for Mariah Associates, Inc., Laramie, Wyoming.															
15.Remarks:															
16.Sensitivity:		Critical				Significant				Important		X		Insignificant	
17.Recorded by: Alden Hamblin, Paleontologist										Date: December 10, 1994					



**EQUITABLE RESOURCES CO.**

BALCRON MONUMENT FEDERAL #34-25  
SECTION 25, T8S, R17E, S.L.B.&M.  
TOPO "B"



SCALE: 1" = 2000'

**Tri State**  
Land Surveying, Inc.  
(801) 781-2501  
38 WEST 100 NORTH VERNAL, UTAH 84078

**ABSTRACT**

An intensive cultural resource evaluation has been conducted for Balcron Oil Company of ten proposed well locations and access routes (Balcron Monument Federal wells #42-12J, 11-7J, 41-12J, 42-14J, 32-14J, 22-14J, 24-25, 34-25, 43-26 and 14-26). These evaluated locations are situated on federally administered lands located in the Monument Buttes and Pleasant Valley localities of Duchesne and Uintah Counties, Utah. This evaluation involved a total of 135.15 acres, of which 100 acres are associated with the well pads and an additional 35.15 acres are associated with access road rights-of-way. One additional well included in this report, (Monument Federal 12-7J) was previously inventoried in a forty acre intensive zone (inventory #013-163, Vernal BLM). The well pad and access road for that location have already been constructed. These evaluations were conducted by F.R. Hauck and Glade Hadden of AERC on December 15 and 20, 1994.

No previously recorded significant or National Register eligible cultural resources will be adversely affected by the proposed developments.

No newly identified cultural resource activity loci of either historic or prehistoric origin were discovered and recorded during the examinations.

Two isolated artifacts were noted during the investigations. An isolated Rose Spring style projectile point (Isolate 1461G/X1, see Figure 1) was recovered from the disturbance zone of well # 43-26 (see Map 3). A non-diagnostic biface chopping tool was discovered but not collected near the well pad for well # 42-12J. This tool is similar in appearance to others found in the area (Hauck and Hadden 1994d).

AERC recommends project clearance based on adherence to the stipulations noted in the final section of this report.

**CULTURAL RESOURCE EVALUATION  
OF PROPOSED WELL LOCATIONS AND ACCESS ROUTES  
IN THE MONUMENT BUTTES AND  
PLEASANT VALLEY LOCALITIES  
OF DUCHESNE & UINTAH COUNTIES, UTAH**

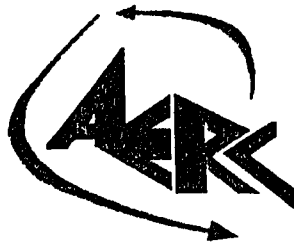
**Report Prepared for Balcron Oil Company**

**Dept. of Interior Permit No.: UT-94-54937  
AERC Project 1461 (BLCR-94-11)**

**Utah State Project No.: UT-94-AF-775b**

**Principal Investigator  
F. Richard Hauck, Ph.D.**

**Authors of the Report  
F. Richard Hauck & Glade V Hadden**



**ARCHEOLOGICAL-ENVIRONMENTAL RESEARCH  
CORPORATION (AERC)**

**181 North 200 West, Suite 5  
P.O. Box 853  
Bountiful, Utah 84011-0853**

**December 30, 1994**

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## GENERAL INFORMATION

On December 15 and 20, 1994, AERC archaeologists F.R. Hauck and Glade Hadden conducted an intensive cultural resource evaluation for Balcron Oil Company of Billings, Montana. This examination involved ten proposed well locations and associated access roads (Balcron Monument Federal Units 42-12J, 11-7J, 41-12J, 42-14J, 32-14J, 22-14J, 24-25, 14-26, 34-25, 43-26 and 14-26), and an additional well (Balcron Monument Federal 12-7J which has been constructed and previously inventoried in a forty acre intensive survey zone (inventory 013-163, Vernal BLM). The project area is in the Monument Buttes and Pleasant Valley localities south east of Myton, Utah (see Map 1). Some 135.15 acres were examined which include 100 acres associated with the well pads and some 35.15 acres associated with the access routes, all of which are situated on federal lands administered by the Vernal District of the Bureau of Land Management, Diamond Mountain Resource Area, Vernal, Utah.

The purpose of the field study and this report is to identify and document cultural site presence and assess National Register potential significance relative to established criteria (cf., Title 36 CFR 60.6). The proposed development of these well locations and associated access routes requires an archaeological evaluation in compliance with U.C.A. 9-8-404, the Federal Antiquities Act of 1906, the Reservoir Salvage Act of 1960-as amended by P.L. 93-291, Section 106 of the National Historic Preservation Act of 1966-as amended, the National Environmental Policy Act of 1969, the Federal Land Policy and Management Act of 1979, the Archaeological Resources Protection Act of 1979, the Native American Religious Freedom Act of 1978, the Historic Preservation Act of 1980, and Executive Order 11593.

In addition to documenting cultural identity and significance, mitigation recommendations relative to the preservation of cultural data and materials can be directed to the Bureau of Land Management, Vernal District Office and to the State Antiquities Section.

### Project Location

The project location is in the Monument Buttes locality of Duchesne County, and the Pleasant Valley locality of Uintah County. All of the evaluated wells and access routes are situated on the Myton SE and Pariette Draw SW 7.5 minute topographic quads (see Maps).

Balcron Monument Federal #11-7J is situated in the NW quarter of the NW quarter of Section 7, Township 9 South, Range 17 East SLBM, together with ca. 0.3 miles of access route (see Map 2).

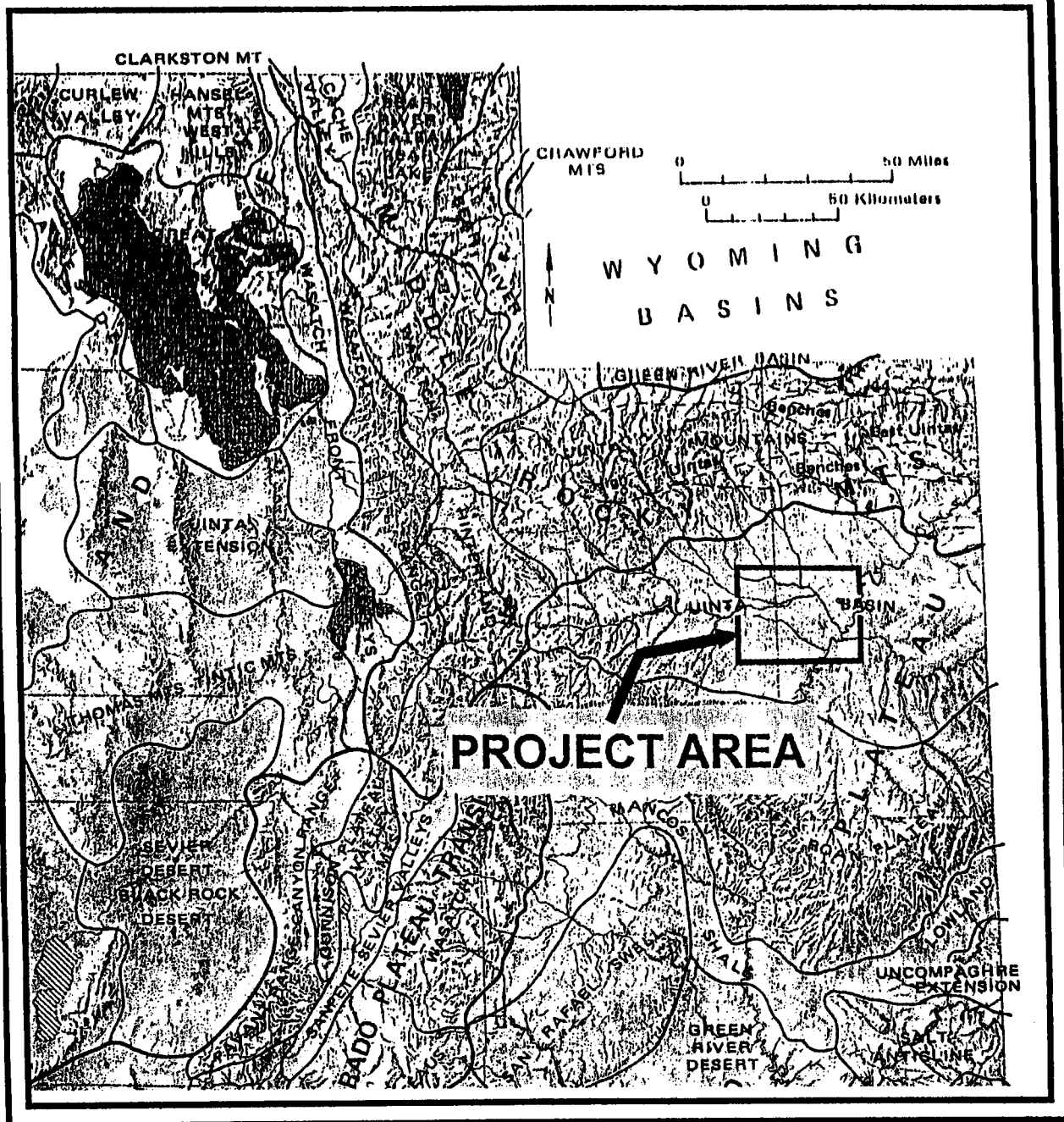
Balcron Monument Federal #12-7J is situated in the SW quarter of the NW quarter of Section 7, Township 9 South, Range 17 East SLBM (see Map 2).

Balcron Monument Federal #41-12J is situated in the NE quarter of the NE quarter of Section 12, Township 9 South, Range 16 East SLBM, together with ca. 0.4 miles of access route (see Map 2).

**MAP 1: GENERAL BALCRON PROJECT  
LOCALITY IN DUCHESNE AND UINTAH  
COUNTIES OF NORTHWESTERN UTAH**



**PROJECT:** BLOR-94 - 11  
**SCALE:** see below  
**QUAD:** UG & MS Map 43  
**DATE:** 12-30-94



**UTAH**

**T. multiple**

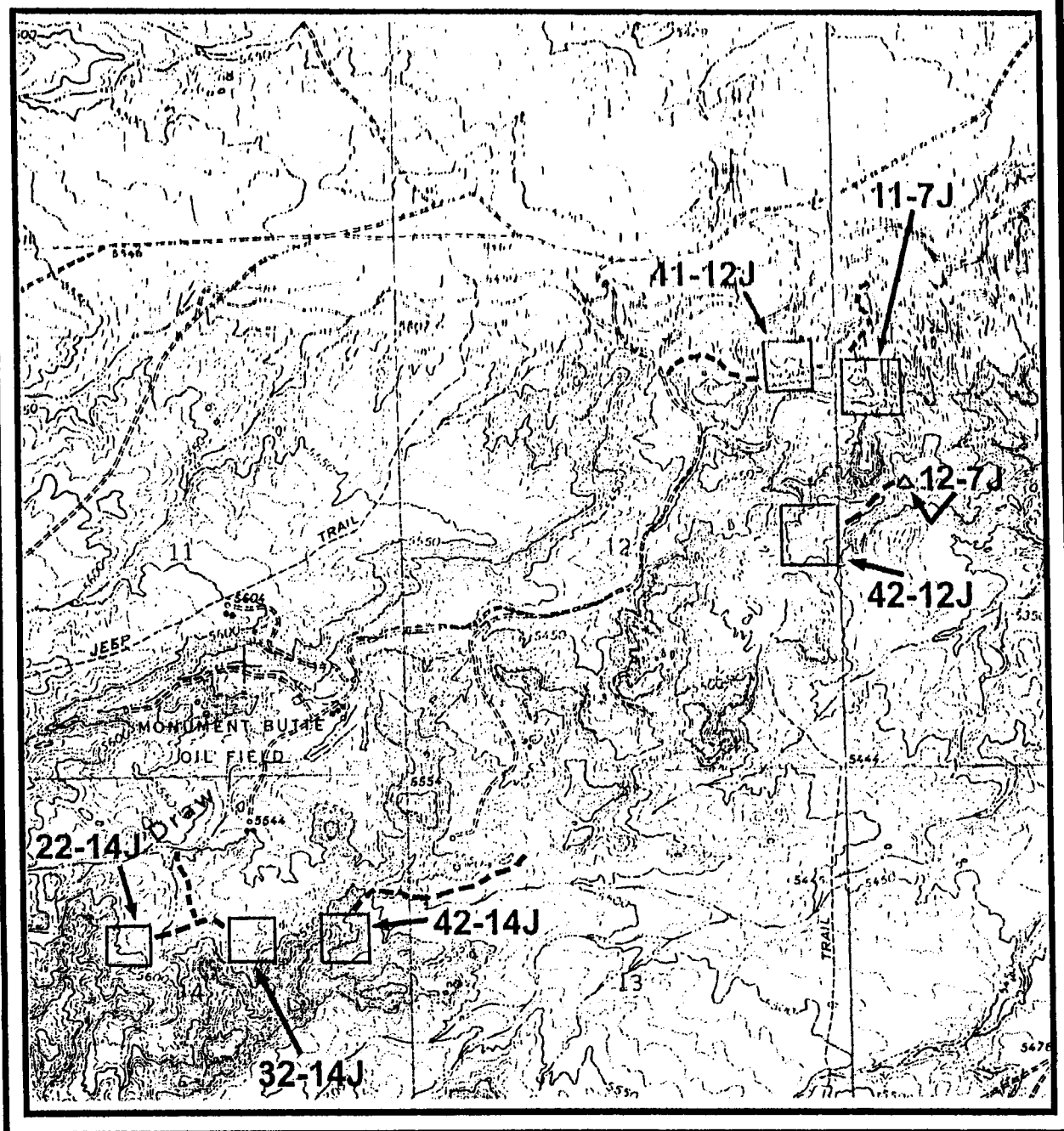
**R. multiple**

**Meridian: Salt Lake B & M**

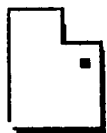
**(After PHYSIOGRAPHIC SUBDIVISIONS  
OF UTAH by W.L. Stokes)**

**MAP 2: CULTURAL RESOURCE SURVEY  
OF BALCRON UNITS 11-7J, 12-7J,  
22-14J, 32-14J, 41-12J, 42-12J, and  
42-14J IN THE  
MONUMENT BUTTES LOCALITY OF  
DUCHEBNE COUNTY, UTAH**

**PROJECT:** BLOR-94-11  
**SCALE:** 1:24,000  
**QUAD:** Myton 8E, Utah  
**DATE:** 12-30-94



**LEGEND:**



**UTAH**

**T. 9 South**

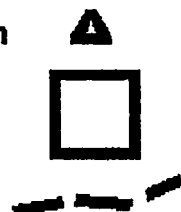
**R. 16 East**

**Meridian: Salt Lake B & M**

**Existing Well Location**

**Survey Plot**

**Access Route**



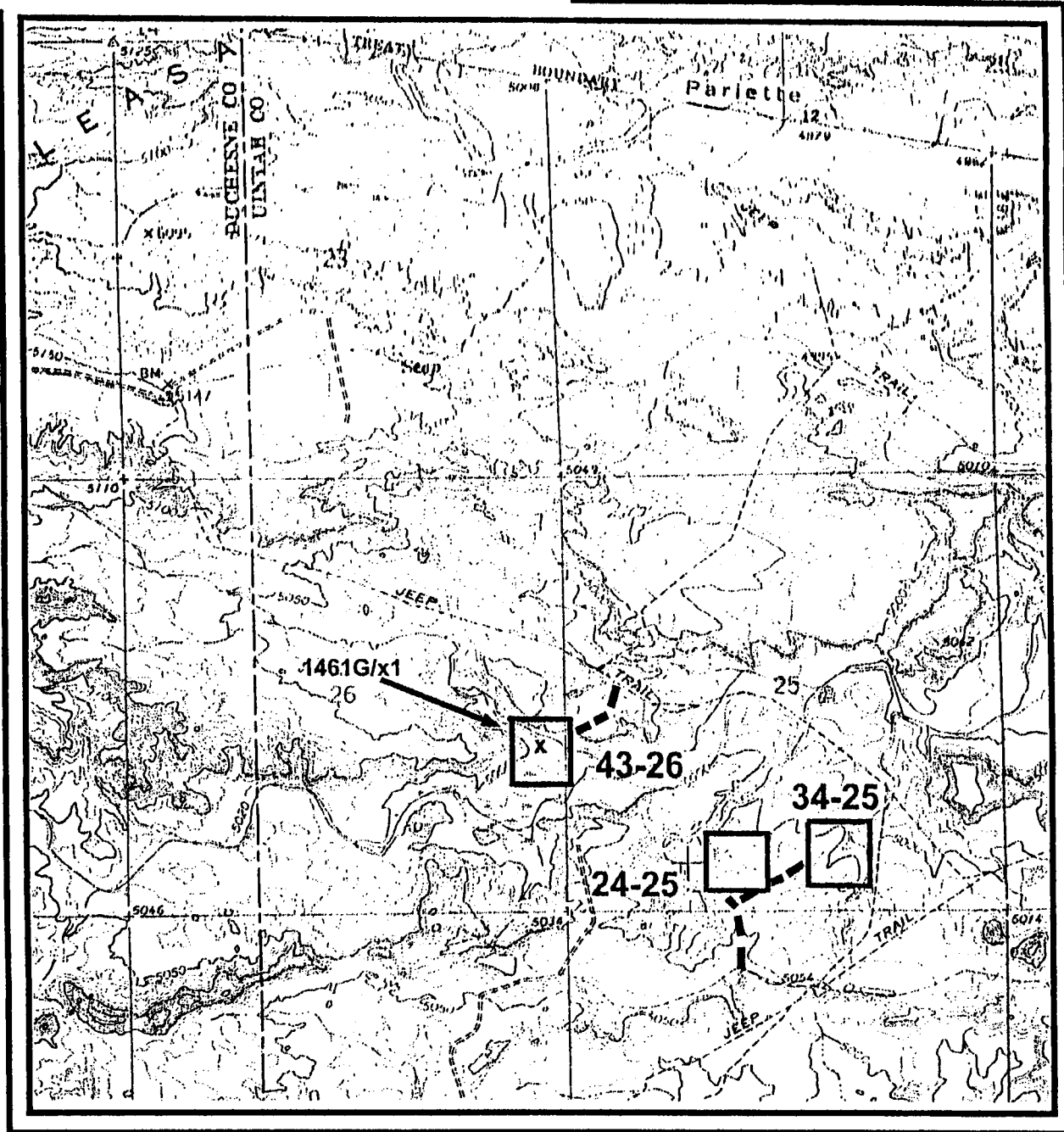
**MAP 3: CULTURAL RESOURCE SURVEY  
OF BALCRON UNITS 24-25, 34-25, and  
43-26 IN THE PLEASANT VALLEY  
LOCALITY OF UINTAH COUNTY, UTAH**

**PROJECT: BLCR-94-11**

**SCALE: 1:24,000**

**QUAD: Parlette Draw SW, Utah**

**DATE: 12-30-84**



**LEGEND:**



**UTAH**

**T. 8 South**

**R. 17 East**

**Meridian: Salt Lake B & M**

**Isolated Artifact**

**Survey Plot**

**Access Route**

**X**



**MAP 4: CULTURAL RESOURCE SURVEY  
OF BALCRON UNIT 14-26 IN THE  
MONUMENT BUTTES LOCALITY OF  
DUCHESE COUNTY, UTAH**

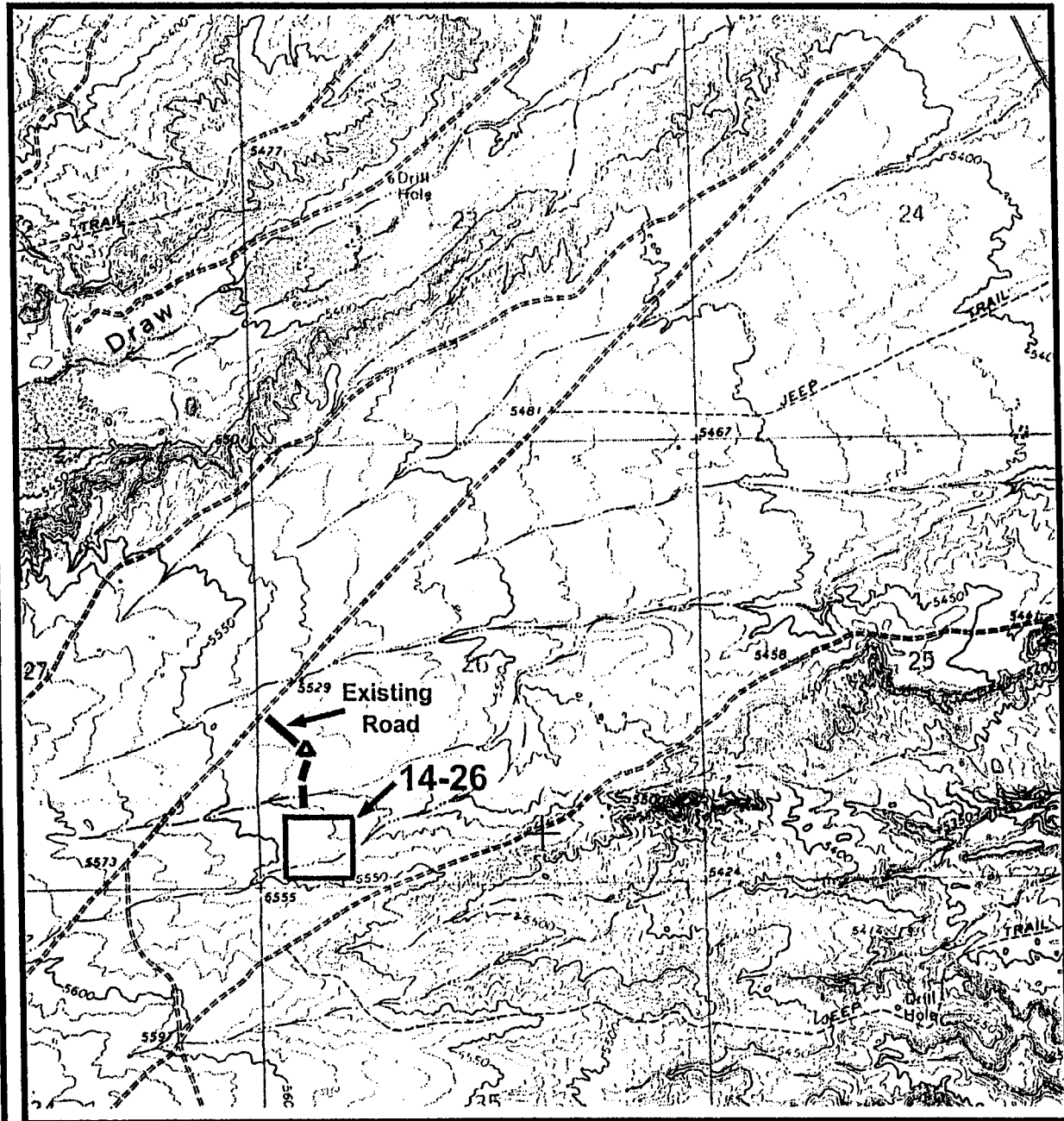


**PROJECT: BLCR-94-11**

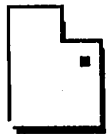
**SCALE: 1:24,000**

**QUAD: Myton SE, Utah**

**DATE: 12-30-94**



**LEGEND:**



**UTAH**

**T. 8 South**

**R. 16 East**

**Meridian: Salt Lake B & M**

**Existing Well Location**

**Survey Plot**

**Access Route**



Balcron Monument Federal #42-12J is situated in the SE quarter of the NE quarter of Section 12, Township 9 South, Range 16 East SLBM, together with ca. 0.3 miles of access route (see Map 2).

Balcron Monument Federal #22-14J is situated in the SE quarter of the NW quarter of Section 14, Township 9 South, Range 16 East SLBM, together with ca. 0.1 miles of access route (see Map 2).

Balcron Monument Federal #32-14J is situated in the SW quarter of the NE quarter of Section 14, Township 9 South, Range 16 East SLBM, together with ca. .03 miles of access route (see Map 2).

Balcron Monument Federal #42-14J is situated in the SE quarter of the NE quarter of Section 14, Township 9 South, Range 16 East SLBM, together with ca. 0.6 miles of access route (see Map 2).

Balcron Monument Federal #24-25 is situated in the SE quarter of the SW quarter of Section 25, Township 8 South, Range 17 East SLBM, together with ca. 0.1 miles of access route (see Map 3).

Balcron Monument Federal #34-25 is situated in the SW quarter of the SE quarter of Section 25, Township 8 South, Range 17 East SLBM, together with ca. 0.4 miles of access route (see Map 3).

Balcron Monument Federal #43-26 is situated in the NE quarter of the SE quarter of Section 26, Township 8 South, Range 17 East SLBM, together with ca. 0.2 miles of access route (see Map 3).

Balcron Monument Federal #14-26 is situated in the SW quarter of the SW quarter of Section 26, Township 8 South, Range 16 East SLBM, together with ca. 0.2 miles of access route (see Map 4).

### Environmental Description

The project area is within the 5000 to 5500 foot elevation zone above sea level. Open rangeland terrain and eroded Eocene lakebed surfaces are associated with the project localities.

The vegetation in the project area includes *Chrysothamnus* spp. *Artemisia* spp., *Sarcobatus vermiculatus*, *Ephedra viridis*, *Cercocarpus* spp. *Atriplex canescens*, and a variety of grasses.

The geological associations within the project area consist of fluvial lake deposits which correlate with the Uinta Formation which is of Tertiary age.

## PREVIOUS RESEARCH IN THE LOCALITY

### File Search

A records search of the site files and maps at the Antiquities Section of the State Historic Preservation Office in Salt Lake City was conducted on December 19, 1994. A similar search was conducted in the Vernal District Office of the BLM on December 15, 1994. The National Register of Historic Places has been consulted and no registered historic or prehistoric properties will be affected by the proposed developments.

A variety of known cultural sites are situated in the Monument Buttes / Castle Peak Draw/ Eight Mile Flat/ Pariette Draw localities. Many of these prehistoric resources were identified and recorded by AERC during the Mapco River Bend survey (Hauck and Norman 1980). Other sites have been located and recorded by AERC and other archaeologists and consultants during oil and gas exploration inventories (cf. Fike and Phillips 1984, Hauck and Weder 1989).

### Prehistory and History of the Cultural Region

Currently available information indicates that the Northern Colorado Plateau Cultural Region has been occupied by a variety of cultures beginning perhaps as early as 10,000 B.C. These cultures, as identified by their material remains, demonstrate a cultural developmental process that begins with the earliest identified Paleoindian peoples (10,000 -- 7,000 B.C.) and extends through the Archaic (ca. 7,000 B.C. -- A.D. 300), and Formative (ca. A.D. 400 -- 1100) Stages, and the Late Prehistoric-Protohistoric periods (ca. A.D. 1200 -- 1850) to conclude in the Historic-Modern period which was initiated with the incursion of the Euro-American trappers, explorers, and settlers. Basically, each cultural stage -- with the exception of the Late Prehistoric hunting and gathering Shoshonean bands -- features a more complex life-way and social order than occurred during the earlier stage of development (Hauck 1991:53). For a more comprehensive treatment of the prehistory and history of this region see Archaeological Evaluations in the Northern Colorado Plateau Cultural Area (Hauck 1991).

### Site Potential in the Project Development Zone

Previous archaeological evaluations in the general project area have resulted in the identification and recording of a variety of cultural resource sites having eligibility for potential nomination to the National Register of Historic Places (NRHP). The majority of these sites are lithic scatters containing cobble reduction materials. Many of these quarry sites are of the "Tap and Test" variety, and extend for tens or hundreds of meters. Open occupations are also frequently being identified in this locality. Sites associated with the open rangeland generally appear to have been occupied during the Middle Plains Archaic Stage with occasional indications of Paleoindian activity based on the recovery of isolated Plano style projectile points. The north-south drainage canyons appear to contain the majority of Late Prehistoric (Numa) sites probably because those canyon floors were transportation corridors and convenient pastures for the Ute

horse herds. Evidence of Formative Stage occupation, i.e., Fremont, is rarely observed in the rangeland environment but is common within the Green River and White River canyons and their primary tributary canyons.

Site density in certain portions of the region appears to range from one to four sites per section. These densities increase in the canyon bottoms due to Ute rock art loci. Recent evaluations indicate that the site densities may reach 8 to 12 sites per section in certain localities on the upper benches which were apparently favored for hunting, lithic resource procurement, and camping. Prehistoric sites on the rangeland benches appear to be associated with water courses and aeolian deposits.

## FIELD EVALUATIONS

### Methodology

Intensive evaluations consisted of the archaeologists walking a series of 10 to 20 meter-wide transects across a 10 acre area associated with each ten acre well pad area. Access routes are evaluated by the archaeologists walking a pair of 10 to 15 meter-wide transects on either side of the flagged access route rights of way. Thus, a 30 meter-wide or 100 foot-wide corridor (ca. 35.15 acres) was examined for the various proposed access roads, in addition to the 100 acres inventoried on the well pads.

Observation of cultural materials results in intensive examinations to determine the nature of the resource (isolate or activity locus). The analysis of each specific cultural site results in its subsequently being sketched, photographed, and appropriately recorded on standard IMACS forms. Cultural sites are then evaluated for significance utilizing the standards described below and mitigation recommendations are considered as a means of preserving significant resources which may be situated within the development zone.

### Site Significance Criteria

Prehistoric and historic cultural sites which can be considered as eligible for nomination to the National Register of Historic Places have been outlined as follows in the National Register's Criteria for Evaluation as established in Title 36 CFR 60.6:

*The quality of significance in American ... archaeology ... and culture is present in ... sites ... that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:*

- a. That are associated with events that have made a significant contribution to the broad patterns of our history; or*
- b. that are associated with the lives of persons significant in our past; or*
- c. that embody the distinctive characteristics of a type, period, or method of construction ... ; or*
- d. that have yielded, or may be likely to yield, information important in prehistory or history.*

In addition to satisfying one or more of these general conditions, a significant cultural resource site in Utah will generally be considered as being eligible for inclusion in the National Register if it should advance our current state of knowledge relating to chronology, cultural relationships, origins, and cultural life ways of prehistoric or historic groups in the area.

In a final review of any site's cultural significance, the site must possess integrity and at least one of the above criteria to be considered eligible for nomination to the National Record of Historic Places.

### Results of the Inventory

No prehistoric or historic cultural resource activity loci were observed and recorded during the archaeological evaluations.

No previously identified and recorded significant or National Register sites were noted or recorded during the survey.

One diagnostic isolated artifact was collected during the evaluation. Isolate 1461G/x1 is a Rose Spring style projectile point (see Figure 1) collected from the disturbance zone of well # 43-26 (see Map 3). A detailed evaluation of the locality failed to yield any identifiable features or cultural contexts that would demonstrate the presence of an archaeological locus. A single non-diagnostic tool was noted in the area of well 42-12J. This tool was a simple chopper constructed by bifacially removing several flakes from one end of a hand-sized cobble. The occurrence of this tool fits a previously noted pattern (Hauck and Hadden 1994d), and may be related to the ambush hunting and subsequent butchering of large game animals, possibly during the Archaic period. A detailed evaluation of the locality failed to yield any identifiable features or cultural contexts that would demonstrate the presence of an archaeological locus.



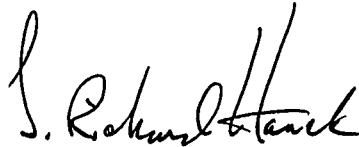
**FIGURE 1**  
**Isolate 1461G/x1**  
**(Actual Size)**

## CONCLUSION AND RECOMMENDATIONS

No known significant cultural resources will be adversely impacted during the development and operation of the Balcron Well Units as evaluated during this AERC project.

AERC recommends that a cultural resource clearance be granted to Balcron Oil Company relative to the development of these proposed drilling locations and the associated access routes based upon adherence to the following stipulations:

1. all vehicular traffic, personnel movement, construction and restoration operations should be confined to the flagged areas and corridors examined as referenced in this report, and to the existing roadways;
2. all personnel should refrain from collecting artifacts and from disturbing any significant cultural resources in the area; and
3. the authorized official should be consulted should cultural remains from subsurface deposits be exposed during construction work or if the need arises to relocate or otherwise alter the location of the exploration area.



F. Richard Hauck, Ph.D.  
President and Principal Investigator

## **REFERENCES**

**Fike, Richard E. and H. Blaine Phillips II**

- 1984 "A Nineteenth Century Ute Burial from Northeast Utah." Cultural Resource Series No. 16, Bureau of Land Management, Salt Lake City.

**Hauck, F. Richard**

- 1981 Cultural Resource Inventory of Nine Proposed Well Locations and Access Roads in the Coyote Basin Locality of Uintah County, Utah, and in the Castle Peak Draw Locality of Duchesne County, Utah. Report prepared for Diamond Shamrock, DS-81-2, Archeological-Environmental Research Corporation, Bountiful.
- 1982 Cultural Resource Inventory of Five Proposed Well Locations and Access Roads in the Eightmile Flat and Castle Peak Localities of Uintah and Duchesne Counties, Utah. Report Prepared for Diamond Shamrock, DS-82-5, Archaeological-Environmental Research Corporation, Bountiful.
- 1984a Excavation (in) "A Nineteenth Century Ute Burial from Northeast Utah." Cultural Resource Series No. 16, Bureau of Land Management, ( Richard E. Fike and Blaine Phillips II editors and principal authors) Salt Lake City.
- 1984b Cultural Resource Evaluations of Seven Proposed Well Locations Situated in the Castle Peak Draw Locality of Uintah County, Utah. Report Prepared for Overthrust Oil and Royalty Company, OORC-84-1, Archaeological-Environmental Research Corporation, Bountiful.
- 1991 Archaeological Evaluations on the Northern Colorado Plateau Cultural Area, AERC Paper No. 45, Archeological-Environmental Research Corporation, Bountiful.
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- 1992b Addendum to Cultural Resource Evaluations of Four Proposed Well Locations in the Castle Peak Draw Locality of Duchesne County, Utah. Report prepared for Balcron Oil Company, BLCR-92-4, Archeological-Environmental Research Corporation, Bountiful.

- 1992c Cultural Resource Evaluations of Seven Proposed Well Locations in the Castle Peak Draw Locality of Duchesne County, Utah. Report prepared for Balcron Oil Company, BLCR-92-5, Archeological-Environmental Research Corporation, Bountiful.**
- 1992d Cultural Resource Evaluation of a Proposed Water Pipeline Corridor in the Castle Peak Draw Locality of Duchesne County, Utah. Report prepared for Balcron Oil Company, BLCR-92-6, Archeological-Environmental Research Corporation, Bountiful.**
- 1992e Cultural Resource Evaluation of Seven Proposed Well Locations in the Castle Peak Draw Locality of Duchesne County, Utah. Report prepared for Balcron Oil Company, BLCR-92-8, Archeological-Environmental Research Corporation, Bountiful.**
- 1993a Cultural Resource Evaluation of Nine Proposed Well Locations in the Castle Peak Draw Locality of Duchesne and Uintah Counties, Utah. Report prepared for Balcron Oil Company, BLCR-93-1, Archeological-Environmental Research Corporation, Bountiful.**
- 1993b Addendum to Cultural Resource Evaluation of Nine Proposed Well Locations in the Castle Peak Draw Locality of Duchesne and Uintah Counties, Utah. Report prepared for Balcron Oil Company, BLCR-93-2, Archeological-Environmental Research Corporation, Bountiful.**
- 1993c Cultural Resource Evaluation of a Pipeline Corridor Situated in the Castle Peak Draw Locality of Duchesne County, Utah. Report prepared for Balcron Oil Company, BLCR-93-3, Archeological-Environmental Research Corporation, Bountiful.**

**Hauck, F. Richard and Glade V Hadden**

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- 1993b Cultural Resource Evaluation of Four Proposed Well Locations in the Monument Buttes Locality of Duchesne County, Utah. Report prepared for Balcron Oil Company, BLCR-93-5, Archaeological-Environmental Research Corporation, Bountiful.**
- 1993c Cultural Resource Evaluation of Eight Proposed Well Locations in the Monument Buttes Locality of Duchesne County, Utah. Report prepared for Balcron Oil**

Company, BLCR-93-9, Archaeological-Environmental Research Corporation, Bountiful.

1993d Cultural Resource Evaluation of Four Proposed Well Locations in the Monument Buttes and Pleasant Valley Localities of Duchesne and Uintah Counties, Utah. Report prepared for Balcron Oil Company, BLCR-93-10, Archaeological-Environmental Research Corporation, Bountiful.

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Hauck, F. Richard and Norman, V. Garth

1980 Final Report on the Mapco River Bend Cultural Mitigation Study. AERC Paper No. 18, of the Archeological-Environmental Research Corporation, Bountiful.

Hauck, F. Richard and Dennis Weder

1989 Pariette Overlook -- A Paleo-Indian Quarry Site in the Pariette Draw Locality of Uintah County, Utah. AERC Paper No. 42, of the Archeological-Environmental Research Corporation, Bountiful.

Stokes, W. L.

1977 Physiographic Subdivisions of Utah. Map 43, Utah Geological and Mineral Survey, Salt Lake.

WORKSHEET  
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 03/02/95

API NO. ASSIGNED: 43-047-32670

WELL NAME: BALCRON MONUMENT FED 34-25  
OPERATOR: EQUITABLE RESOURCES (N9890)

PROPOSED LOCATION:

SWSE 25 - T08S - R16E  
SURFACE: 0800-FSL-2100-FEL  
BOTTOM: 0800-FSL-2100-FEL  
UINTAH COUNTY  
UNDESIGNATED FIELD (002)

LEASE TYPE: FED  
LEASE NUMBER: U-67845

PROPOSED PRODUCING FORMATION: GRRV

INSPECT LOCATION BY: / /

TECH REVIEW	Initials	Date
Engineering		
Geology		
Surface		

RECEIVED AND/OR REVIEWED:

Y Plat  
Y Bond: Federal ☒ State ☐ Fee ☐  
(Number 5547188)  
N Potash (Y/N)  
N Oil shale (Y/N)  
Y Water permit  
(Number PRIVATE WELL)  
N RDCC Review (Y/N)  
(Date: \_\_\_\_\_)

LOCATION AND SITING:

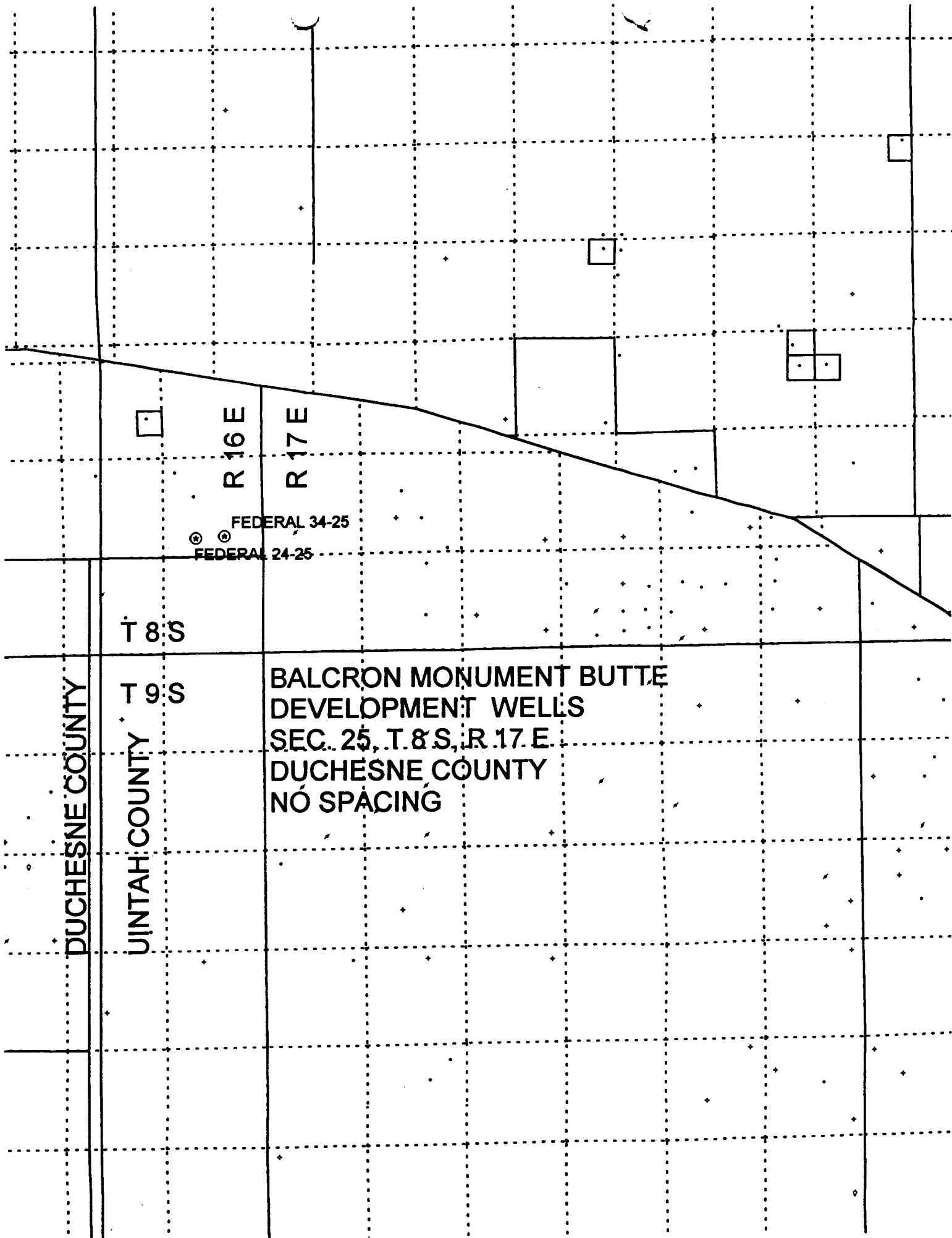
\_\_\_ R649-2-3. Unit: \_\_\_\_\_  
Y R649-3-2. General.  
\_\_\_ R649-3-3. Exception.  
\_\_\_ Drilling Unit.  
Board Cause no: \_\_\_\_\_  
Date: \_\_\_\_\_

COMMENTS: \_\_\_\_\_

CONFIDENTIAL  
PERIOD  
EXPIRED

ON 8-20-96  
per OPR request

STIPULATIONS: \_\_\_\_\_



R 16 E

R 17 E

FEDERAL 34-25

FEDERAL 24-25

T 8 S

T 9 S

DUCHESE COUNTY

UINTAH COUNTY

BALCRON MONUMENT BUTTE  
DEVELOPMENT WELLS  
SEC. 25, T. 8 S., R. 17 E.  
DUCHESE COUNTY  
NO SPACING

**EQUIPMENT INVENTORY  
UTAH DIVISION OF OIL, GAS AND MINING  
STATE OF UTAH**

Operator: EQUITABLE RESOURCES Lease: State:      Federal: X Indian:      Fee:     

Well Name: BALCRON MONUMENT FED. 34-25 API Number: 43-047-32670

Section: 25 Township: 8S Range: 17E County: UINTAH Field: UNDESIGNATED

Well Status: POW Well Type: Oil: X Gas:     

**PRODUCTION LEASE EQUIPMENT: (NUMBER)**

Boiler(s):      Compressor(s):      Separator(s):      Dehydrator(s):     

Shed(s):      Line Heater(s):      Heated Separator(s):      VRU:     

Heater Treater(s): 1

**PUMPS:**

Triplex:      Chemical:      Centrifugal: 1

**LIFT METHOD:**

Pumpjack: X Hydraulic:      Submersible:      Flowing:     

**GAS EQUIPMENT: (NUMBER)**

Purchase Meter: 0 Sales Meter: 0

**TANKS:**

**NUMBER**

**SIZE**

Oil Storage Tank(s): 2 400 BBLS

Water Tank(s): 1 100 BBLS

Pover Water Tank:           BBLS

Condensate Tank(s):           BBLS

Propane Tank: 1

**Central Battery Location: (IF APPLICABLE)**

Otr/Otr:      Section:      Township:      Range:     

**REMARKS: TANKS HAVE BURNERS. CASINGHEAD GAS GOES TO EMULSION LINE AND USED FOR FUEL GAS WITH PROPANE FOR BACKUP. EXCESS GAS WILL VENT.**

Inspector: DAVID W. HACKFORD Date: 1/2/96

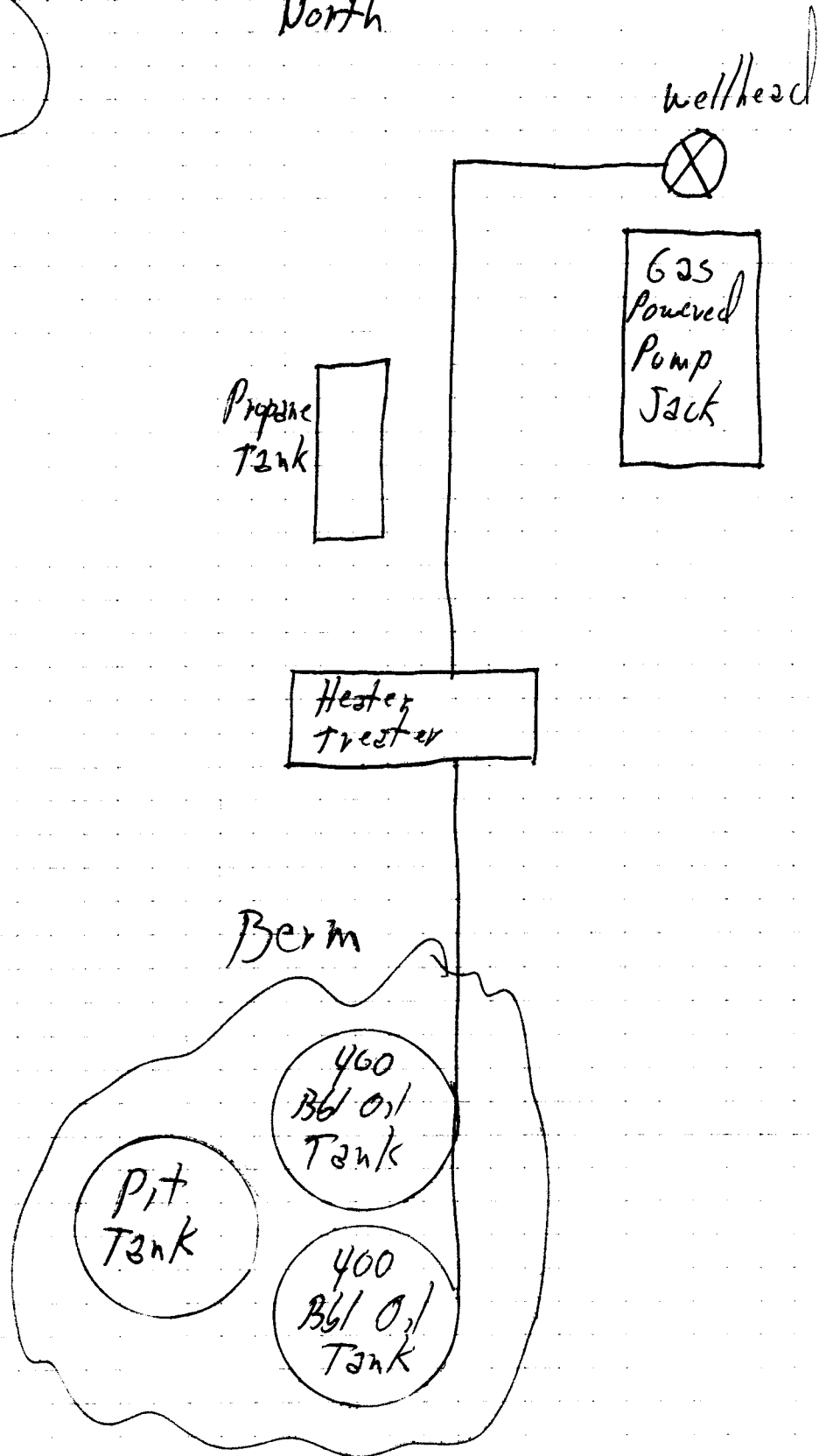
Equitable Resources

BMF 34-25-

43-047-32670

Top  
Soil

↑  
North





State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor

Ted Stewart  
Executive Director

James W. Carter  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

June 1, 1995

Equitable Resources Energy Company  
P. O. Box 21017  
Billings, Montana 59104

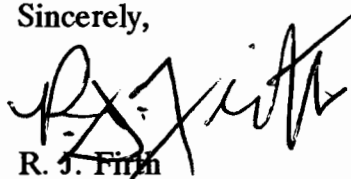
Re: Balcron Monument Federal #34-25 Well, 800' FSL, 2100' FEL, SW SE, Sec. 25, T. 8 S., R. 17 E., Uintah County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. 40-6-1 et seq., Utah Administrative Code R649-3-1 et seq., and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-047-32670.

Sincerely,



R. J. Firth  
Associate Director

ldc

Enclosures

cc: Uintah County Assessor

Bureau of Land Management, Vernal District Office

WAPD



**Operator:** Equitable Resources Energy Company  
**Well Name & Number:** Balcron Monument Federal #34-25  
**API Number:** 43-047-32670  
**Lease:** U-67845  
**Location:** SW SE Sec. 25 T. 8 S. R. 17 E.

### **Conditions of Approval**

**1. General**

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for Permit to Drill.

**2. Notification Requirements**

Notify the Division within 24 hours following spudding the well or commencing drilling operations. Contact Jimmie Thompson at (801)538-5340.

Notify the Division prior to commencing operations to plug and abandon the well. Contact Frank Matthews or Mike Hebertson at (801)538-5340.

**3. Reporting Requirements**

All required reports, forms and submittals shall be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Form approved.  
Budget Bureau No. 1004-0136  
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.

U-67845

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

n/a

7. UNIT AGREEMENT NAME

n/a

8. FARM OR LEASE NAME

Balcron Monument Federal

9. WELL NO.

#34-25

10. FIELD AND POOL, OR WILDCAT

Undesignated/Green River

11. SEC., T., R., M., OR BLK.  
AND SURVEY OR AREA

Sec. 25, T8S, R17E

12. COUNTY OR PARISH

Uintah

13. STATE

UTAH

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL  
WELL ☒

GAS  
WELL ☐

OTHER

SINGLE  
ZONE ☐

MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

Equitable Resources Energy Company, Balcron Oil Division

3. ADDRESS OF OPERATOR

P.O. Box 21017; Billings, MT 59104

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At surface

SW SE Section 25, T8S, R17E

800' FSL, 2100' FEL

At proposed prod. zone

43-047-32670

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

Approximately 10 miles southeast of Myton, Utah

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

(Also to nearest drig. unit line, if any)

16. NO. OF ACRES IN LEASE

17. NO. OF ACRES ASSIGNED

TO THIS WELL

18. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

19. PROPOSED DEPTH

6,250'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

GL 5007.6'

22. APPROX. DATE WORK WILL START\*

3/1/95

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
See EXHIBIT	"D" Drilling	Program/Casing	Design	

Operator intends to drill this well in accordance with the attached permit. A listing of EXHIBITS is also attached.

**SELF CERTIFICATION:** I hereby certify that I am authorized, by proper lease interest owner, to conduct these operations associated with the application. Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Equitable Resources Energy Company as principal and Safeco Insurance Company of America as surety under BLM Bond No. MT 0576 (Nationwide Oil & Gas Bond #5547188) who will be responsible for compliance with all of the terms and conditions of that portion of the lease associated with this application.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

*Robbie Schuman*  
Robbie Schuman

TITLE

Regulatory and

Environmental Specialist

DATE

*February 28, 1995*

(This space for Federal or State office use)

PERMIT NO.

NOTICE OF APPROVAL

APPROVAL DATE

ASSISTANT DISTRICT  
MANAGER MINERALS

JUN 01 1995

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

CONDITIONS OF APPROVAL ATTACHED  
TO OPERATOR'S COPY

44080-511-130

\*See Instructions On Reverse Side

**CONDITIONS OF APPROVAL**  
**APPLICATION FOR PERMIT TO DRILL**

Company/Operator: Equitable Resources Energy Company

Well Name & Number: Balcron Federal 34-25

API Number: 43-047-32670

Lease Number: U-67845

Location: SWSE Sec. 25 T. 8S R. 17E

**NOTIFICATION REQUIREMENTS**

- |                                 |   |   |
|---------------------------------|---|---|
| Location Construction           | - | at least forty-eight (48) hours prior to construction of location and access roads.   |
| Location Completion             | - | prior to moving on the drilling rig.  |
| Spud Notice                     | - | at least twenty-four (24) hours prior to spudding the well.   |
| Casing String and Cementing     | - | at least twenty-four (24) hours prior to running casing and cementing all casing strings.   |
| BOP and Related Equipment Tests | - | at least twenty-four (24) hours prior to initiating pressure tests.   |
| First Production Notice         | - | within five (5) business days after new well begins, or production resumes after well has been off production for more than ninety (90) days. |

For more specific details on notification requirements, please check the Conditions of Approval for Notice to Drill and Surface Use Program.

## CONDITIONS OF APPROVAL FOR NOTICE TO DRILL

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

All lease and/or unit operations will be conducted in such a manner that full compliance is made with applicable laws, regulations (43 CFR 3100), Onshore Oil and Gas Orders, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative by the operator to insure compliance.

Be aware fire restrictions may be in effect when location is being constructed and/or when well is being drilled. Contact the appropriate Surface Management Agency for information.

### A. DRILLING PROGRAM

#### 1. Estimated Depth at Which Oil, Gas, Water, or Other Mineral Bearing Zones are Expected to be Encountered

Report ALL water shows and water-bearing sands to Tim Ingwell of this office. Copies of State of Utah form OGC-8-X are acceptable. If noticeable water flows are detected, submit samples to this office along with any water analyses conducted.

All usable water and prospectively valuable minerals (as described by BLM at onsite) encountered during drilling, will be recorded by depth and adequately protected. All oil and gas shows will be tested to determine commercial potential.

#### 2. Pressure Control Equipment

The BOP and related equipment shall meet the minimum requirements of Onshore Oil and Gas Order No. 2 for equipment and testing requirements, procedures, etc., for a 2M system and individual components shall be operable as designed. Chart recorders shall be used for all pressure tests.

Test charts, with individual test results identified, shall be maintained on location while drilling and shall be made available to a BLM representative upon request.

If an air compressor is on location and is being utilized to provide air for the drilling medium while drilling, the special drilling requirements in Onshore Oil and Gas Order No. 2, regarding air or gas drilling shall be adhered to. If a mist system is being utilized then the requirement for a deduster shall be waived.

The Vernal District Office shall be notified, at least 24 hours prior to initiating the pressure tests, in order to have a BLM representative on location during pressure testing.

3. Casing Program and Auxiliary Equipment

Surface casing shall have centralizers on the bottom three joints, with a minimum of one centralizer per joint.

The surface casing will need to be cemented with neat cement.

As a minimum, the usable water and oil shale resources shall be isolated and/or protected by having a cement top for the production casing at least 200 ft. above the base of the Usable Water zone identified at  $\pm 222$  ft. or by extending the surface casing to  $\pm 272$  ft. and having a cement top for the production casing at least 200 ft. above the top of the Mahogany Oil Shale zone identified at  $\pm 2358$  ft.. If gilsonite is encountered while drilling, it shall be isolated and/or protected via the cementing program.

The Vernal District Office shall be notified at least 24 hours prior to the running and cementing of all casing strings, in order to have a BLM representative on location while running and cementing.

4. Mud Program and Circulating Medium

Hazardous substances specifically listed by the EPA as a hazardous waste or demonstrating a characteristic of a hazardous waste will not be used in drilling, testing, or completion operations.

No chromate additives will be used in the mud system on Federal and Indian lands without prior BLM approval to ensure adequate protection of fresh water aquifers.

5. Coring, Logging and Testing Program

Daily drilling and completion progress reports shall be submitted to this office on a weekly basis.

All Drill Stem tests (DST) shall be accomplished during daylight hours, unless specific approval to start during other hours is obtained from the AO. However, DSTs may be allowed to continue at night if the test was initiated during daylight hours and the rate of flow is stabilized and if adequate lighting is available (i.e., lighting which is adequate for visibility and vaporproof for safe operations). Packers can be released, but tripping should not begin before daylight unless prior approval is obtained from the AO.

A cement bond log (CBL) will be run from the production casing shoe to  $\pm 2158$  ft. if the surface casing is set at  $\pm 272$  ft. or to surface if the surface casing is set at  $\pm 260$  ft.. The CBL shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.

Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) will be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3164. Two copies of all logs, core descriptions, core analyses, well-test data, geologic summaries, sample description, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. Samples (cuttings, fluids, and/or gases) will be submitted when requested by the AO.

6. Notifications of Operations

No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the AO. If operations are to be suspended, prior approval of the AO will be obtained and notification given before resumption of operations.

The Vernal District Office shall be notified, during regular work hours (7:45 a.m.-4:30 p.m., Monday through Friday except holidays), at least 24 hours prior to spudding the well.

Operator shall report production data to MMS pursuant to 30 CFR 216.5 using form MMS/3160.

Immediate Report: Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be promptly reported in accordance with the requirements of NTL-3A or its revision.

If a replacement rig is contemplated for completion operations, a "Sundry Notice" (Form 3160-5) to that effect will be filed, for prior approval of the AO, and all conditions of this approved plan are applicable during all operations conducted with the replacement rig.

The date on which production is commenced or resumed will be construed for oil wells as the date on which liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which liquid hydrocarbons are first produced into a permanent storage facility, whichever first occurs; and, for gas wells as the date on which associated liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which gas is first measured through permanent metering facilities, whichever first occurs.

Should the well be successfully completed for production, the AO will be notified when the well is placed in a producing status. Such notification will be sent by telegram or other written communication, not later than five (5) days following the date on which the well is placed on production.

Gas produced from this well may not be vented or flared beyond an initial authorized test period of 30 days or 50 MMCF following its completion, whichever occurs first, without the prior written approval of the Authorized Officer. Should gas be vented or flared without approval beyond the authorized test period, the operator may be directed to shut-in the well until the gas can be captured or approval to continue venting or flaring as uneconomic is granted and the operator shall be required to compensate the lessor for that portion of the gas vented or flared without approval which is determined to have been avoidably lost.

A schematic facilities diagram as required by 43 CFR 3162.7-5 (b.9. d.), and shall be submitted to the appropriate District Office within sixty (60) days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with 43 CFR 3162.7-5 (b. 4).

No well abandonment operations will be commenced without the prior approval of the AO. In the case of newly drilled dry holes or failures, and in emergency situations, oral approval will be obtained from the AO. A "Subsequent Report of Abandonment" Form 3160-5, will be filed with the AO within thirty (30) days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration. Final abandonment will not be approved until the surface reclamation work required by the approved APD or approved abandonment notice has been completed to the satisfaction of the AO or his representative, or the appropriate Surface Managing Agency.

7. Other Information

All loading lines will be placed inside the berm surrounding the tank battery.

All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the AO.

The oil and gas measurement facilities will be installed on the well location. The oil and gas meters will be calibrated in place prior to any deliveries. Tests for meter accuracy will be conducted following initial installation and at least quarterly thereafter. The AO will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be submitted to the Vernal District Office. All meter measurement facilities will conform with Onshore Oil & Gas Order No. 4 for liquid hydrocarbons and Onshore Oil & Gas Order No. 5 for natural gas measurement.

The use of materials under BLM jurisdiction will conform to 43 CFR 3610.2-3.

There will be no deviation from the proposed drilling and/or workover program without prior approval from the AO. Safe drilling and operating practices must be observed. All wells, whether drilling, producing, suspended, or abandoned will be identified in accordance with 43 CFR 3162.

"Sundry Notice and Report on Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3162.3-2.

Section 102(b)(3) of the Federal Oil and Gas Royalty Management Act of 1982, as implemented by the applicable provisions of the operating regulations at Title 43 CFR 3162.4-1(c), requires that "not later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than 90 days, the operator shall notify the authorized officer by letter or sundry notice, Form 3160-5, or orally to be followed by a letter or sundry notice, of the date on which such production has begun or resumed."

If you fail to comply with this requirement in the manner and time allowed, you shall be liable for a civil penalty of up to \$10,000 per violation for each day such violation continues, not to exceed a maximum of 20 days. See Section 109(c)(3) of the Federal Oil and Gas Royalty Management Act of 1982 and the implementing regulations at Title 43 CFR 3162.4-1(b)(5)(ii).

APD approval is valid for a period of one (1) year from the signature date. An extension period may be granted, if requested, prior to the expiration of the original approval period.

In the event after-hours approvals or notifications are necessary, please contact one of the following individuals:

Wayne P. Bankert      (801) 789-4170  
Petroleum Engineer

Ed Forsman              (801) 789-7077  
Petroleum Engineer

BLM FAX Machine      (801) 781-4410

## **EPA'S LIST OF NONEXEMPT EXPLORATION AND PRODUCTION WASTES**

While the following wastes are nonexempt, they are not necessarily hazardous.

- Unused fracturing fluids or acids
- Gas plant cooling tower cleaning wastes
- Painting wastes
- Oil and gas service company wastes, such as empty drums, drum rinsate, vacuum truck rinsate, sandblast media, painting wastes, spent solvents, spilled chemicals, and waste acids
- Vacuum truck and drum rinsate from trucks and drums, transporting or containing nonexempt waste
- Refinery wastes
- Liquid and solid wastes generated by crude oil and tank bottom reclaimers
- Used equipment lubrication oils
- Waste compressor oil, filters, and blowdown
- Used hydraulic fluids
- Waste solvents
- Waste in transportation pipeline-related pits
- Caustic or acid cleaners
- Boiler cleaning wastes
- Boiler refractory bricks
- Incinerator ash
- Laboratory wastes
- Sanitary wastes
- Pesticide wastes
- Radioactive tracer wastes
- Drums, insulation and miscellaneous solids.

**SURFACE USE PROGRAM**  
Conditions of Approval (COAs)  
Equitable Resources Energy Co. - Well #34-25

Plans For Reclamation Of Location

At time of abandonment the intent of reclamation will be to return the disturbed area to near natural conditions. Recontour the surface of the disturbed area to blend all cuts, fills, road berms, and borrow ditches to be natural in appearance with the surrounding terrain. After recontouring of the area, the stockpiled topsoil will be spread over the surface, and the area reseeded and revegetated to the satisfaction of the authorized officer of the BLM.

Wellsite Layout

The operator is required to use a plastic reinforced liner to line the reserve pit. The liner will be a minimum of 12 mil thickness with sufficient bedding to cover any rocks. The liner will overlap the pit walls and be covered with dirt and/or rocks to hold in place. No trash, scrap pipe, etc..., that could puncture the liner will be disposed on in the pit.

Other Information

The operator or his/her contractor shall contact the BLM Office at (801) 789-1362 forty-eight (48) hours prior to construction activities.

The BLM Office shall be notified upon site completion prior to moving on the drilling rig.

To protect raptor species nesting in the area the location and access road will not be developed or drilled between March 1 and July 15.

For the construction of the silt catchment dam identified in the Surface Use Plan, Minimum Standards for Dams Impounding Under 10 Acre Feet are attached.

**CONFIDENTIAL**

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: EQUITABLE RESOURCES

Well Name: BALCRON MONUMENT FEDERAL 34-25

Api No. 43-047-32670

Section 25 Township 8S Range 17E County UINTAH

Drilling Contractor UNION

Rig # 17

SPUDDED: Date 10/5/95

Time

How ROTARY

Drilling will commence

Reported by DANNY FARNSWORTH

Telephone #

Date: 10/10/95 Signed: JLT

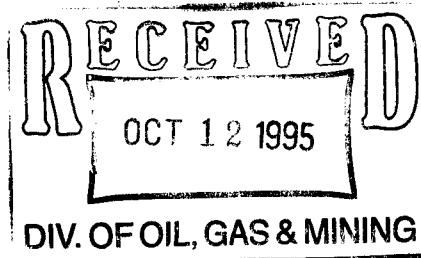


**EQUITABLE RESOURCES  
ENERGY COMPANY**

**BALCRON OIL DIVISION**

1601 Lewis Avenue  
Billings, MT 59102

Office: (406) 259-7860  
FAX: (406) 245-1365 ☐  
FAX: (406) 245-1361 ☒



**October 9, 1995**

**Bureau of Land Management  
Vernal District Office  
170 South 500 East  
Vernal, UT 84078**

**CONFIDENTIAL**

**Gentlemen:**

**RE: Balcron Monument Federal #34-25  
SW SE Section 25, T8S, R17E  
Uintah County, Utah**

**43-047-32670**

**This letter is notice that the subject well was spud on 10-4-95 at  
4:30 p.m.**

**Please feel free to contact me if you have any questions.**

**Sincerely,**

**Molly Conrad  
Operations Secretary**

**/mc**

**cc: State of Utah, Division of Oil, Gas, & Mining - also enclosed is  
Entity Action Form 6.  
Mary Lou Dixon, Uintah Basin Health Dept. - VIA FAX  
Bobbie Schuman  
Lou Ann Carlson**

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING  
ENTITY ACTION FORM - FORM 6

OPERATOR Equitable Resources Energy Company  
Balcron Oil Division  
ADDRESS 1601 Lewis Avenue  
Billings, MT 59102  
(406) 259-7860

OPERATOR ACCT. NO. H 9890

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RG	COUNTY		
A	99999	11831	43-047-32670	Balcron Monument Fed. #34-25	SW SE	25	8S	17E	Uintah	10-4-95	10-4-95
WELL 1 COMMENTS: Spud of a new well. <i>Entity added 10-17-95. Lee</i>											
WELL 2 COMMENTS:											
WELL 3 COMMENTS:											
WELL 4 COMMENTS:											
WELL 5 COMMENTS:											

ACTION CODES (See Instructions on back of form)

- A - Establish new entity for new well (single well only)
- D - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (explain in comments section)

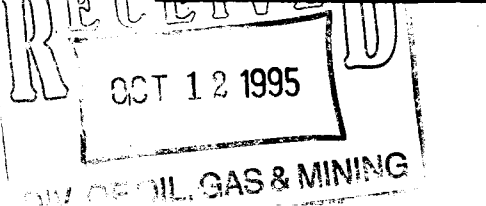
NOTE: Use COMMENT section to explain why each Action Code was selected.

(3/89)

Molly Conrad  
Signature

Operations Secretary 10-9-95  
Title Date

Phone No. (406) 259-7860



RECEIVED  
NOV 06 1995  
DIV. OF OIL, GAS & MINING

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.  
Use "APPLICATION FOR PERMIT --" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

EQUITABLE RESOURCES ENERGY COMPANY, BALCRON OIL DIVISION

3. Address and Telephone No.

1601 Lewis Avenue; Billings, MT 59104 (406) 259-7860

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

SURFACE: SW SE Section 25, T8S, R17E  
TD: 800' FSL & 2100' FEL

FORM APPROVED

Budget Bureau No. 1004-0135

Expires: March 31, 1993

5. Lease Designation and Serial No.

U-67845

6. If Indian, Allottee or Tribe Name

n/a

7. If Unit or CA, Agreement Designation

n/a

8. Well Name and No.

Balcron Monument Fed. #34-25

9. API Well No.

43-047-32670

10. Field and Pool, or Exploratory Area

Undesignated/Green River

11. County or Parish, State

Uintah County, Utah

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment	<input type="checkbox"/> Change of Plans
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion	<input type="checkbox"/> New Construction
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Altering Casing	<input type="checkbox"/> Conversion to Injection
	<input checked="" type="checkbox"/> Other	<input type="checkbox"/> Dispose Water
	Report of First Production (Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form)	

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

First production on this well was on 11-1-95 at 5:00 p.m.

14. I hereby certify that the foregoing is true and correct

Signed

*Nolly Conrad*

Title Operations Secretary

Date 11-2-95

(This space for Federal or State office use)

Approved by

Conditions of approval, if any:

Title

Date

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*See instruction on Reverse Side

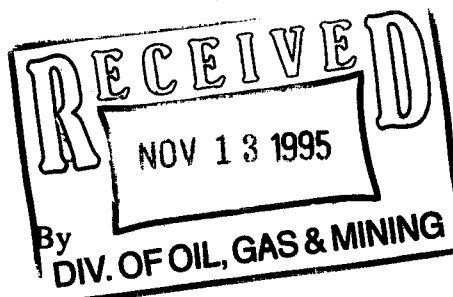
## WELL REPORT

43-047-32670

PAR DRAW

Balcron Monument Federal 34-25  
800' FSL, 2100 FEL, Sec. 25, T8S-R17E  
Uintah County, Utah

CONFIDENTIAL



***DENNIS REHRIG & ASSOCIATES, INC.***

Oil & Gas Consulting

4924 Rimrock Road  
Billings, Montana 59106

(406) 656-4785

**MICROFICHE**

# **WELLSITE GEOLOGIST'S REPORT**

**PAR DRAW  
Balcron Monument Federal 34-25  
800' FSL, 2100 FEL, Sec. 25, T8S-R17E  
Uintah County, Utah**

***DENNIS REHRIG & ASSOCIATES, INC.***

**Oil & Gas Consulting**

**4924 Rimrock Road  
Billings, Montana 59106**

**(406) 656-4785**

**DENNIS C. REHRIG & ASSOCIATES, INC.**

Oil & Gas Exploration

4924 RIMROCK ROAD • BILLINGS, MONTANA 59106 • (406) 656-4785

---

**PAR DRAW**  
**Balcron Monument Federal 34-25**  
**800' FSL, 2100 FEL, Sec. 25, T8S-R17E**  
**Uintah County, Utah**

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7	Surveys
8	Bit Record
9	Time/Depth Penetration Chart
10	Drilled Well Formation Tops
11	Reference Well Formation Tops
12	Significant Gas and Sample Shows
13	Sample Descriptions
Insert	Geologic Well Log

By:

**DENNIS C. REHRIG**

Consulting Geologist

For:

**DENNIS C. REHRIG & ASSOCIATES, INC.**

**Balcron Monument Federal 34-25  
800' FSL, 2100 FEL, Sec. 25, T8S-R17E  
Uintah County, Utah**

**GENERAL REVIEW**

The Balcron Monument Federal 34-25 SW $\frac{1}{4}$ SE $\frac{1}{4}$ , Sec. 25, T8S-R17E, Uintah County, Utah was drilled as a development-field extension well in the Par Draw Field.

This well was supported by subsurface offset well control and drilled for identification of anticipated Douglas Creek and Wasatch Tongue oil sands and possible future water flood.


The surface hole was air drilled and surface casing was set by rotary rig No. 17 owned by Union Drilling Co. This well was spudded on October 4, 1995. A two-man mud logging unit and wellsite geologist were on site from 1650' to total depth. The Green River and Douglas Creek formations were penetrated at 1708' and 4946' making them respectively 18' high and 36' high structurally to the 1/4 mile Northwest offset Balcron Monument Federal 23-25 (NE $\frac{1}{4}$ SW $\frac{1}{4}$ , S-25, T8S-R17E) control well.

This well was drilled to 6175' (Driller) and 6166' (Logger).

Subsequent to log review the operator elected to run 5½" production casing in this well.

The rotary was released 10/15/95.

Respectfully submitted,

  
DENNIS C. REHRIG

**Balcron Monument Federal 34-25  
800' FSL, 2100 FEL, Sec. 25, T8S-R17E  
Uintah County, Utah**

**WELL DATA**

<b><u>OPERATOR:</u></b>	Balcron Oil
<b><u>LEASE &amp; WELL NO.:</u></b>	Federal 34-25
<b><u>LOCATION:</u></b>	800' FSL, 2100 FEL, Sec. 25, T8S-R17E
<b><u>PROSPECT/FIELD:</u></b>	Par Draw
<b><u>COUNTY:</u></b>	Uintah
<b><u>STATE:</u></b>	Utah
<b><u>BASIN:</u></b>	Uintah
<b><u>WELL TYPE:</u></b>	Development - Field Extension
<b><u>BASIS FOR PROSPECT:</u></b>	Subsurface well control
<b><u>ELEVATIONS:</u></b>	G.L. 5004', K.B. 5014'
<b><u>SPUD DATE:</u></b>	4:30 PM (MDT) 10/4/95 (Rotary)
<b><u>OUT FROM UNDER SURFACE CASING:</u></b>	2:00 PM (MDT) 10/5/95
<b><u>DRILLING COMPLETED:</u></b>	1:30 AM (MDT) 10/14/95
<b><u>LOGGING COMPLETED:</u></b>	12:00 Noon (MDT) 10/14/95
<b><u>RIG RELEASE:</u></b>	5:00 AM (MDT) 10/15/95
<b><u>TOTAL DAYS SPUD THROUGH LOGGING:</u></b>	11 days
<b><u>TOTAL DEPTH:</u></b>	6,175' (Driller) 6,166' (Logger)
<b><u>TOTAL DRILLING DAYS:</u></b>	11 days

<b><u>HOLE SIZE &amp; CASING:</u></b>	<b><u>Hole Size</u></b> 12¼" Surface to 324' 7⅞" 324' to T.D.	<b><u>Casing Size</u></b> 8⅝" surface to 299' K.B. 5½" production casing to 6108' KB.
<b><u>WELL STATUS:</u></b>	Cased for oil completion attempt.	
<b><u>PENETRATION:</u></b>	376' below Carbonate Marker	
<b><u>COMPANY DRILLING CONSULTANT:</u></b>	Al Plunkett	
<b><u>DRILLING CONTRACTOR:</u></b>	Union Drilling Co.	
<b><u>RIG NO.:</u></b>	17	
<b><u>TOOLPUSHER:</u></b>	Dave Gray	
<b><u>RIG SPECIFICATIONS:</u></b>	Draw Works – Cabot–Franks, powered by one D–343 Diesel Cat Derrick – Cabot–Franks 97' mast.	
<b><u>BLOW OUT PREVENTER:</u></b>	Make: Cameron. Type: 10" x 5000 lbs. Drill Pipe: Size: 4½" OD, 2¼" ID, Thread: XH. BHA: Length 525' (17 – 6½" DC's) Tool joints: 6¼" OD, Type – XH.	
<b><u>MUD PUMP:</u></b>	No. 1 – Gardiner–Denver FXN, 14" Stroke, 6" liner.	
<b><u>MUD COMPANY:</u></b>	Anchor Drilling Fluids, Inc. Operator bought products and drilling contractor mixed as needed.	
<b><u>MUD PROGRAM:</u></b>	Air/Foam – Surface to 4189' KCl/Water 4189' – Total Depth	
<b><u>ELECTRIC OPEN–HOLE LOGGING PROGRAM:</u></b>	Halliburton Energy Services Engineer: Kirk Evatt Witnessed by: Dennis Rehrig and Al Plunkett – Dual Laterolog w/Caliper, Gamma Ray, and Tension Curve (294'–6148') – Spectral Density/Dual Spaced Neutron with Caliper, Gamma Ray & Tension Curve (3000'–6118')	
<b><u>LOST CIRCULATION ZONE OR DRILLING PROBLEMS:</u></b>	None observed.	
<b><u>WELLSITE GEOLOGIST:</u></b>	Dennis C. Rehrig	

**SAMPLING PROGRAM:**

50' Samples from 1,650'–4,189'  
30' Samples from 4,189'–Total Depth,  
except caught extra samples through  
drilling breaks and/or mudlog shows, as necessary.

**SAMPLE QUALITY:**

Generally fair unless noted otherwise. Samples did not  
always tie well to drilltime.

**SAMPLE DISPOSITION:**

Utah Geological Survey – Salt Lake City, Utah

**MUD LOGGING EQUIPMENT:**

Northwest Mudlogging Service – two man unit  
Larry Vodall, Bob Francke, and Ray Schmoldt.

**CORE PROGRAM:**

None.

**DRILLSTEM TEST:**

None.

**SURFACE CASING:**

8 $\frac{5}{8}$ " CFI, 24 wt, J-55, 7 jts.  
Surface – 299' K.B. Surface hole drilled and casing  
set by rotary rig. Cemented w/BJ, used 190 sxs "G"  
w/2% CaCl<sub>2</sub> and 1/4#/sx Celloflake. Plug down @  
2:15 AM, 10/5/95.

**PRODUCTION CASING:**

144' jts, 5 $\frac{1}{2}$ ", 15.50 wt, J-55, to 6108' KB, cemented  
w/220 sxs Super "G" lead and 395 sxs 50–50 POZ  
w/BJ, various additives in all cement. Plug down at  
1:00 AM 10/15/95.

**Balcron Monument Federal 34-25**  
**800' FSL, 2100 FEL, Sec. 25, T8S-R17E**  
**Uintah County, Utah**

**DAILY DRILLING HISTORY**

Daily drilling reports taken primarily from Rig Tower Sheets and supplemented by Drilling Supervisor.  
 Day commenced at 6:00 AM (MDT) day of prior day of report and ends at 6:00 AM (MDT) day of report.

Days Since Spud	1995 Date	Depth	Ftg in Last 24 Hrs	<u>Activity (hrs)</u>			Bit No.	W O B (M)	RPM	PP	<u>Activity</u>
				<u>Drlg</u>	<u>Maint. and Repairs</u>	<u>Other</u>					
1	10/5	324'	324'	6.5	0	17.5	1&2	6/8	15/20	200	Rig down, move rig, rig up, drilling and set conductor pipe, drilling Kelly down, drilling and set rathole, NU air bowel and flowline, drilling 12¼" hole, circ and clean hole, TOH to run casing, run casing, RU and cement, WOC, break out and screw on flange.
2	10/6	1200'	876'	14.75	0.25	9.00	3	40	55/60	190/210	NU, test BOP - upper kelly - floor valve - blind and pipe rams - choke to 2000 psi (OK), casing to 1500 psi (OK), TIH - blow H <sub>2</sub> O, drilling cement, drilling 7⅞" hole, change to DP, install rubber, survey, service rig (S/R) and air, drilling, survey, S/R and air, drilling.
3	10/7	2521'	1321'	21.50	2.25	0.25	3	40	55/60	230	Drilling, slip drilling line, change Kelly valve, S/R and check rams, drilling, survey, S/R and air, drilling.
4	10/8	3352'	831'	19.50	0.50	4.00	3	40	55/60	240	Drilling, survey, S/R and check rams, drilling, S/R, survey, drilling, try to unload hole, RU mud pump and aerate, load hole w/H <sub>2</sub> O, drilling.

<u>Days Since Spud</u>	<u>1995 Date</u>	<u>Depth</u>	<u>Ftg in Last 24 Hrs</u>	<u>Drlg</u>	<u>Maint. and Repairs</u>	<u>Other</u>	<u>Bit No.</u>	<u>W O B (M)</u>	<u>RPM</u>	<u>PP</u>	<u>Activity</u>
5	10/9	4007'	655'	22.50	1.50	0	3	40	60	350	Drilling, WO mud pump, S/R, check rams, drilling, S/R – air and pumps, drilling, S/R – air and pumps, drilling.
6	10/10	4409'	402'	16.75	0.50	6.75	4	40	65	1000	Drilling, S/R, check rams, drilling, circ hole, drop survey, TOH, change bit, check rams, break circ, wash 30' to bottom (had 6' fill), drilling w/KCl-water, S/R and pumps, drilling.
7	10/11	4882'	473'	22.50	1.25	0.25	4	40	60/65	1000	Drilling, S/R and check rams, drilling, S/R and pumps, drilling, survey, S/R and pumps, drilling.
8	10/12	5338'	456'	23.00	0.75	0.25	4	40	65	1050	Drilling, S/R, drilling, S/R and pumps, drilling, survey, S/R and pumps, drilling.
9	10/13	5765'	427'	22.75	1.00	0.25	4	40	65	1100	Drilling, S/R and pumps, check rams, drilling, S/R and pumps, drilling, survey and S/R, drilling.
10	10/14	6175'	410'	19.25	0.25	4.50	4	40	65	1150	Drilling, S/R and pump, drilling, circ hole, drop survey, TOH for E-logs.
11	10/15	6175'	0	0	0	23.00	-	-	-	-	TOH, RU loggers – log, RD loggers, TIH w/DP and DC's LD DP & DC's, RU to run casing, run casing and cement, WOC, release rig.

**Balcron Monument Federal 34-25  
800' FSL, 2100 FEL, Sec. 25, T8S-R17E  
Uintah County, Utah**

**SURVEYS VERTICAL HOLE**

<u>Drilling Depth</u>	<u>Degrees</u>
560'	$\frac{1}{2}^{\circ}$
1080'	$\frac{3}{4}^{\circ}$
1580'	$1^{\circ}$
2030'	$1\frac{1}{4}^{\circ}$
2530'	$1\frac{3}{4}^{\circ}$
3130'	$2^{\circ}$
4189'	$1\frac{1}{2}^{\circ}$
4700'	$1\frac{1}{2}^{\circ}$
5200'	$1\frac{1}{4}^{\circ}$
5723'	$1\frac{1}{4}^{\circ}$
6175'	$1\frac{1}{4}$

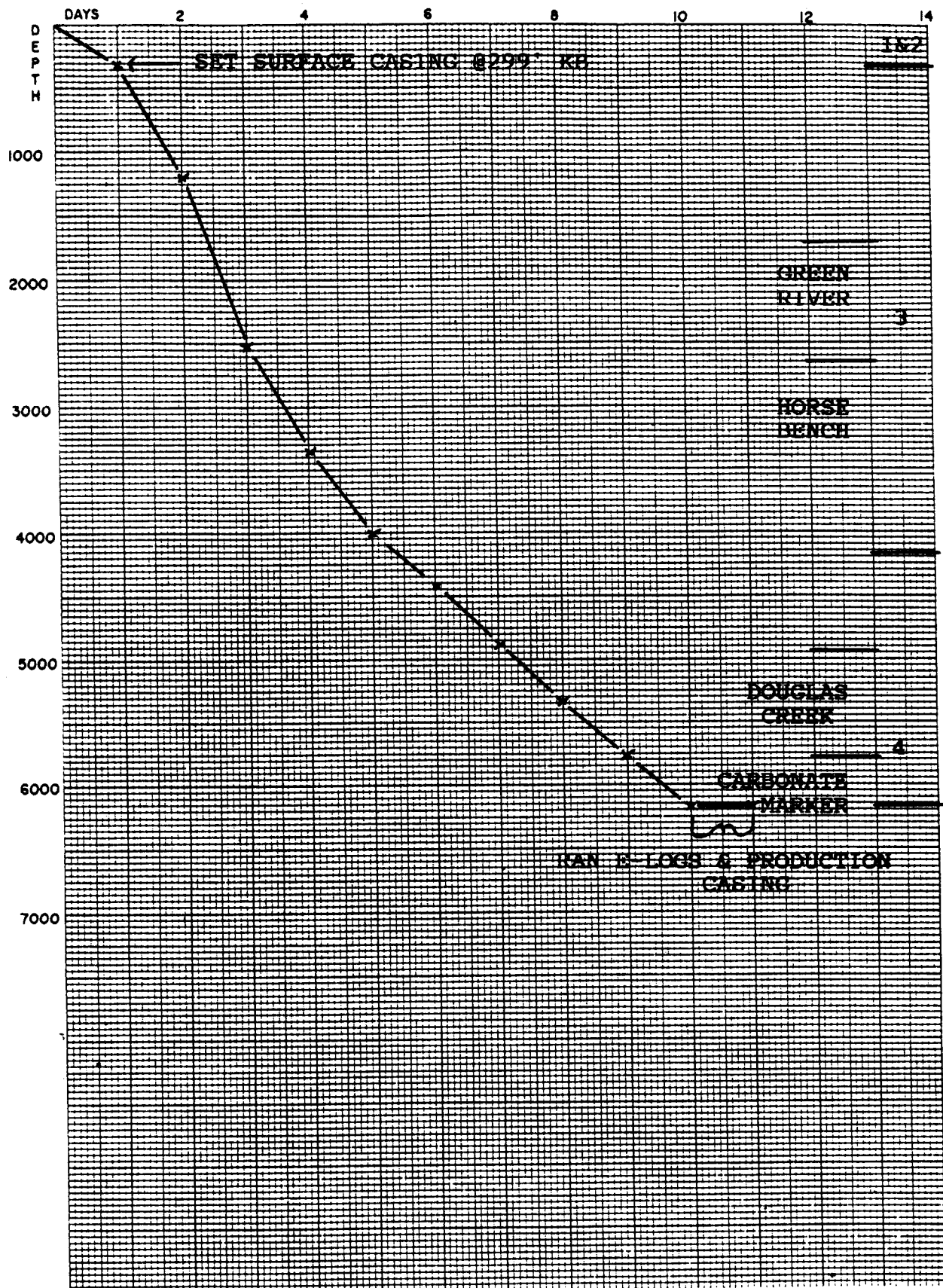
**Balcron Monument Federal 34-25**  
**800' FSL, 2100 FEL, Sec. 25, T8S-R17E**  
**Uintah County, Utah**

**BIT RECORD**

<b>Contractor:</b> Union Drilling Co.  <b>Operator:</b> Balcron Oil  <b>Lease:</b> Federal  <b>State:</b> Utah <b>County:</b> Uintah <b>Sec/T-ship/Range:</b> SWSE Sec. 25, T8S-R17E	<b>Rig No.</b> 17  <b>Field:</b> Par Draw  <b>Well No.</b> 34-25	<b>Rig Make:</b> Cabot-Franks  <b>Derrick:</b> Cabot-Franks 97' mast  <b>Pump #1:</b> Gardiner- Denver FXN Liner 6" x 14" Stroke	<b>Collars:</b> ODxIDxLength BHA  6 5/8" x 2 1/2" x 525' (17 Jts)  <b>Drill Pipe-Size</b> 4 1/2"  <b>Tool Joint:</b> 6 1/4"	<b>Spud (Rotary)</b> 10/4/95  <b>Under Surface</b> 10/5/95  <b>Total Depth</b> 10/14/95  <b>Total Days</b> Drilling 11	<b>Toolpusher:</b> Dave Gray <b>Day Driller:</b> Wm. Satterfield <b>Evening Driller:</b> Garth Partridge <b>Morning Driller:</b> Greg Ferguson <b>Relief Driller:</b> Rod Rasmussen <b>Operators Representative:</b> Al Plunkett  <b>Mud Type:</b> Air/Foam 0' to 4189' KCl/Water 4189' to TD
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Bit No	Bit Size	Bit Type	Bit Mfg	Serial No of Bit	Jet Size	Depth Out	Ftge	Hours Run	Acc Hours	Ft/Hr	Weight 1000 #	Rotary RPM	Vert. Dev.	Air or Pump Press	% of bit life used	Remarks
1	17 1/4"	HUT	FB	42956	-Open-	27'	17'	1	13	17	AM	20		130	55%	WRR
2	12 1/4"	IR	FB	2087028	-Open-	324'	276'	5	28.75	55	10/15	20/25		130/200	60%	WRR
3	7 1/8"	SEC	S88CF	663614	24 24 24	4189'	3865'	69	69	56	40	55/65	1 1/2°	200/250	100%	Junk
4	7 1/8"	HTC	ATJ-44	B84X5	13 13 13	6175'	1986'	91	91	21.8	40	60/65	1 1/4°	950/1150	100%	Junk

**BALCORN MONUMENT FEDERAL 34-25**  
 800' FSL, 2100' FEL, SECTION 25, T8S-R17E  
 UTAH COUNTY, UTAH  
 TIME / DEPTH PENETRATION CURVE



**Balcron Monument Federal 34-25  
800' FSL, 2100 FEL, Sec. 25, T8S-R17E  
Uintah County, Utah**

**FORMATION TOPS**

ELEVATIONS: G.L. 5004', K.B. 5014'

<u>FORMATION</u>	<u>E-Log Top</u>	<u>Subsea Datum</u>	<u>Structural Relationship To Reference Well *</u>
Green River	1708'	(+3306')	18' Hi
Horsebench Sand	2651'	(+2363')	10' Hi
2nd Garden Gulch	4178'	(+ 866')	52' Hi
Yellow Marker	4788'	(+ 226')	20' Hi
Douglas Creek	4946'	(+ 68')	36' Hi
2nd Douglas Creek Mkr	5181'	(- 167')	61' Hi
Green Marker	5406'	(- 392')	30' Hi
Carbonate Marker	5790'	(- 776')	6' Hi
Uteland Butte LS	NDE		
TOTAL DEPTH:	6166' Logger		

\* Reference Well:

Balcron Monument Federal 23-25  
NE¼SW¼ Sec. 25, T8S-R17E  
Uintah County, Utah

Note: Correlations and nomenclature that provided and used by operator.

**Balcron Monument Federal 34-25  
800' FSL, 2100 FEL, Sec. 25, T8S-R17E  
Uintah County, Utah**

**REFERENCE WELL E-LOG FORMATION BOREHOLE AND SUBSEA DATUMS**

**Balcron Monument Federal 23-25  
NE¼SW¼ Sec. 25, T8S-R17E  
Uintah County, Utah**

**K.B. 5002'**

**Formation**

<b>Green River</b>	<b>1714'</b>	<b>(+3288')</b>
<b>Horsebench</b>	<b>2650'</b>	<b>(+2352')</b>
<b>2nd Garden Gulch</b>	<b>4188'</b>	<b>(+ 814')</b>
<b>Yellow Marker</b>	<b>4796'</b>	<b>(+ 206')</b>
<b>Douglas Creek</b>	<b>4970'</b>	<b>(+ 32')</b>
<b>2nd Douglas Creek Mkr</b>	<b>5230'</b>	<b>(- 228')</b>
<b>Green Marker</b>	<b>5424'</b>	<b>(- 422')</b>
<b>Carbonate Marker</b>	<b>5784'</b>	<b>(- 782')</b>
<b>Uteland Butte LS</b>	<b>NDE</b>	
<b>TOTAL DEPTH</b>	<b>6192' (Logger)</b>	

**NOTE: Correlations and nomenclature that provided and used by operator.**

**Balcron Monument Federal 34-25  
800' FSL, 2100 FEL, Sec. 25, T8S-R17E  
Uintah County, Utah**

**SIGNIFICANT GAS KICKS**

Information from Mud Logger

<u>Formation</u>	<u>Sample Depth</u>	<u>Time (Before-During-After) Min/Ft</u>	<u>Total Gas (Before-During-After)</u>
Horse Bench	3305'-3320'	0.4 - 1.7 - 2.2	20 - 260 - 10
Carbonate Marker	5838'-5850'	3.0 - 1.0 - 3.0	900 - 1200 - 1000
Carbonate Marker	5906'-5920'	2.5 - 1.5 - 2.5	800 - 1000 - 750
Carbonate Marker	6024'-6036'	3.5 - 1.5 - 3.0	650 - 1000 - 700

Note: Background gas increased significantly after tripping at 4189' and stayed high for rest of well which could have masked some shows.

**POTENTIAL SANDSTONE ZONES**

Provided by Wellsite Geologist

**E-Log Depth (Spectral Density/Dual Spaced Neutron Log)**

3304'-3314'	Gas effect.
4148'-4168'	Moderate resistivity.
4328'-4332'	Very thin.
4457'-4464'	Very thin.
4543'-4550'	Very thin.
5048'-5053'	Very thin.
*5256'-5291'	Many shaly-Siltstone stringers.
*5546'-5556'	Actually this is Limestone, good show.
5671'-5684'	Moderate resistivity.
5718'-5730'	Moderate resistivity, no sample show.
5816'-5820'	Very thin.
5832'-5841'	Somewhat shaly.
5898'-5908'	Moderate resistivity.
6016'-6028'	Moderate resistivity, no sample show.

\*Probably best zones below Douglas Creek

**Balcron Monument Federal 34-25  
800' FSL, 2100 FEL, Sec. 25, T8S-R17E  
Uintah County, Utah**

**SAMPLE DESCRIPTIONS**

By: Dennis C. Rehrig

All samples caught by Mud Loggers and lagged from 1650' to Total Depth. Samples were examined wet, under reflected light and 3x magnification from 1650' to total depth, for porosity identification samples were dried. Sample descriptions generally tie well to drill time log but not at times in lower portion of hole. Sample quality was fair unless stated otherwise in descriptions. All sample descriptions are interpretive and not tied to E-logs. NOTE: Many shales fluorescence and yield a cut in this section, also much rock becomes contaminated while air drilling, thus generally only shows which are felt to be significant to production from sandstone reservoirs are reported.

1650-1700

Shale - cream-light gray, occasionally medium gray, moderately soft, frequently silty, slightly-moderately calcareous, frequently specks of dark brown carbonaceous material, frequently pyritic.

Siltstone - milky-cream-white, well consolidated, slightly-moderately argillaceous, slightly-moderately calcareous, frequently specks carbonaceous material, generally pyritic.

1700-50

Shale - medium-light gray frequently tannish gray as above.

Argillaceous Dolomite-Limy Dolomite - tan-buff, moderately soft-moderately firm, cryptocrystalline-microcrystalline, dense, very slightly carbonaceous in part, trace Pyrite.

1750-1800

Shale - medium-dark gray to frequently brownish gray-cream, moderately soft-moderately firm, commonly silty, slightly-moderately calcareous, commonly medium-dark brown, carbonaceous material, some Pyrite.

Sandstone - fine-very fine grained occasionally ranging to Siltstone, white-milky, moderately-well consolidated, moderately sorted, slightly calcareous, slightly argillaceous, frequently lithic/carbonaceous particles, commonly pyritic, no apparent porosity, sub-angular to sub-round, some Glauconite, NSFOC.

- 1800-50 Sandstone - fine-very fine grained as above.
- Argillaceous Dolomite-Dolomite - tan-light brown - orangish brown - mahogany, cryptocrystalline-microcrystalline, firm-moderately soft, occasionally pyritic, dense, slightly carbonaceous.
- 1850-1900 Argillaceous Dolomite-Dolomite - tan-light brown - light grayish brown - occasionally mahogany, microcrystalline-cryptocrystalline, moderately firm-moderately soft, abundant microcrystalline disseminated Pyrite, commonly medium brown carbonaceous material.
- Shale - light gray-occasionally medium gray, moderately soft, moderately calcareous, abundant Pyrite, slightly-moderately carbonaceous in part, sub-blocky in part.
- 1900-2000 Argillaceous Dolomite occasionally Limy Dolomite - tan-medium brown, occasionally mahogany, microcrystalline-cryptocrystalline, moderately firm, commonly pyritic, slightly-moderately carbonaceous, dense.
- 2000-50 Argillaceous Dolomite-Limy Dolomite - tan-medium brown - mahogany, moderately firm-occasionally moderately soft, microcrystalline, frequently pyritic, slightly-moderately carbonaceous, frequently with spar-cryptocrystalline Calcite.
- Limestone - milky-slightly amber-slightly orange, cryptocrystalline, sometimes in contact with Argillaceous Dolomite-Limy Dolomite, firm, dense.
- 2050-2200 Argillaceous Dolomite-Limy Dolomite - tan-medium brown-grayish brown-mahogany as above.
- Limestone - as above.
- 2200-50 Argillaceous Dolomite occasionally Limy Dolomite - tan-medium brown - mahogany, microcrystalline-cryptocrystalline, moderately firm, dense, frequently pyritic, slightly-moderately calcareous, dense, occasionally spar-cryptocrystalline Calcite, trace siliceous particles.
- Some Shale - cream-light gray, soft-moderately soft, slightly-moderately calcareous, frequently pyritic.

- 2250-2300      Argillaceous Dolomite-Dolomite - light-medium brown - mahogany occasionally grayish-brown as above.
- Some Shale - as above.
- 2300-50      Argillaceous Dolomite-Limy Dolomite - as 2200-2250 above.
- Some Shale - as above.
- 2350-2400      Argillaceous Dolomite-Limy Dolomite - generally as above, more spar-cryptocrystalline Calcite.
- Shale - as above but more present.
- 2400-50      Argillaceous Dolomite - medium-dark brown to grayish brown - frequently dark mahogany, moderately firm-moderately soft in part, microcrystalline, dense, slightly-moderately carbonaceous, occasionally spar Calcite, trace Pyrite.
- 2450-2500      Argillaceous Dolomite-Dolomite - mahogany-tan - medium brown - tan generally as above, frequently pyritic.
- 2500-50      Argillaceous Dolomite-Limy Dolomite - medium brown - occasionally tan - dark brown, generally microcrystalline, firm-moderately soft in part, slightly-moderately carbonaceous, frequently crystalline Calcite, occasionally siliceous, frequently pyritic, dense.
- 2550-2600      Argillaceous Dolomite - medium-dark brown - grayish brown, microcrystalline, firm-moderately firm, moderately-highly carbonaceous, slightly pyritic, dense, some spar Calcite, trace siliceous material.
- 2600-50      Argillaceous Dolomite-Limy Dolomite - tan - medium-dark brown to dark grayish brown, occasionally mahogany, moderately-highly carbonaceous, firm-moderately soft, microcrystalline, much Pyrite, abundant milky-amber-yellow crystalline Calcite, occasionally siliceous.
- Some Shale - light gray-tan-occasionally orangish tan, moderately soft, moderately calcareous, slightly-highly carbonaceous, occasionally pyritic.
- 2650-2700      Argillaceous Dolomite-Limy Dolomite - tan - light to medium gray, frequently medium-dark reddish brown, generally firm, microcrystalline-

cryptocrystalline, generally moderately carbonaceous, some pyritic, frequently siliceous, some crystalline Calcite.

2700-50

Argillaceous Dolomite - cream to very light tan, moderately firm-moderately soft, cryptocrystalline-frequently microcrystalline, slightly-moderately carbonaceous, occasionally pyritic.

2750-2800

Argillaceous Dolomite-Limy Dolomite - cream-very light tan, abundant milky-clear crystalline Calcite, moderately firm-firm, microcrystalline, slightly-moderately carbonaceous, dense.

Some Shale - medium-dark brown occasionally dark gray-grayish black, firm, moderately-highly carbonaceous in part, moderately calcareous, commonly spar Calcite, some Pyrite, blocky in part.

2800-50

Shale - as above.

Argillaceous Dolomite-Limy Dolomite - tan - light-medium brown, occasionally orangish brown and marly, cryptocrystalline-microcrystalline, moderately firm, moderately carbonaceous, abundant spar-crystalline Calcite, siliceous in part, dense.

2850-2900

Argillaceous Dolomite - tan to light-medium brown, occasionally mahogany as above.

2900-50

Argillaceous Dolomite - occasionally Limy Dolomite - tan to light-medium brown, occasionally dark gray, microcrystalline-occasionally cryptocrystalline, generally moderately firm, frequently moderately soft, moderately carbonaceous, dense, occasionally pyritic, trace crystalline-spar Calcite.

2950-3000

Argillaceous Dolomite - medium-dark grayish brown, occasionally tan, firm, microcrystalline, moderately-highly carbonaceous, frequently pyritic, commonly siliceous, dense.

Some Shale - orangish tan-tan, moderately calcareous, moderately soft-soft, slightly-moderately carbonaceous, trace Pyrite.

3000-50

Argillaceous Dolomite - grayish brown, medium grayish brown, microcrystalline, firm, slightly-moderately carbonaceous, commonly pyritic, dense, frequently siliceous.

- Shale - orangish tan-medium gray, moderately soft, soft, moderately-highly carbonaceous, slightly-moderately calcareous, abundant algal laminae.
- 3050-3150 Shale - medium-dark gray to grayish brown, moderately firm, slightly-moderately calcareous, moderately-highly carbonaceous, frequently algal laminae, frequently pyritic.
- Some Argillaceous Dolomite - tan to medium-dark brown, microcrystalline, firm-moderately firm, dense, slightly-moderately carbonaceous, siliceous in part, frequently pyritic, dense.
- 3150-3200 Shale - light-dark gray, orangish brown-grayish brown, occasionally mahogany, soft-moderately firm, slightly-moderately calcareous, moderately-highly carbonaceous, frequently algal laminae, fissile in part, looks like good source rocks.
- Some Argillaceous Dolomite - as above.
- 3200-50 Limy Dolomite-Argillaceous Dolomite - tan-cream - occasionally mahogany, microcrystalline, moderately firm-moderately soft, slightly-moderately carbonaceous, dense.
- Shale - light to medium gray, moderately soft, slightly-moderately calcareous, slightly carbonaceous frequently pyritic, sub-blocky in part.
- 3250-3300 Sandstone - very fine-fine grained ranging to Siltstone - milky-clear, moderately unconsolidated, moderately sorted, slightly argillaceous in part, slightly calcareous, some lithic fragments and Glauconite, trace Pyrite, angular to sub-angular, some fair-good intergranular porosity, trace pinpoint medium brown oil stain, dull yellow flu. very weak dull bluish yellow halo cut.
- Shale - medium-light gray, frequently cream-buff, moderately soft, slightly-moderately calcareous, slightly carbonaceous in part, frequently pyritic, sub-blocky in part.
- 3300-3400 Shale - tan-medium to dark brown occasionally cream, moderately soft, algal laminae common, moderately-highly carbonaceous, slightly calcareous.

- Some Limy Dolomite-Argillaceous Dolomite - tan-light to medium brown, microcrystalline-cryptocrystalline, moderately firm-moderately soft, slightly-moderately carbonaceous, dense.
- 3400-50      Some Shale - as above ranging to dark grayish black, also much light gray-cream, moderately soft, slightly-moderately calcareous, commonly pyritic, commonly silty.
- Some Limy Dolomite-Argillaceous Dolomite - as above.
- 3450-3500      Shale - light gray-cream, moderately soft, slightly-moderately calcareous, commonly silty, frequently medium-dark specks of carbonaceous material, abundant microcrystalline disseminated Pyrite.
- Argillaceous Limestone-Limestone - tan-buff-occasionally cream, microcrystalline, moderately soft, dense.
- 3500-50      Shale - light-medium gray, frequently cream, trace emerald-slightly lavender, moderately soft-soft, slightly-moderately calcareous, slightly-moderately carbonaceous, frequently silty, abundant Pyrite.
- Some Argillaceous Dolomite-Limy Dolomite - tan-medium brown - frequently orangish tan-yellow, microcrystalline, moderately soft, slightly-moderately carbonaceous, some clear-milky crystalline Calcite, dense.
- Siltstone - ranging to very fine grained Sandstone, milky-light gray, moderately well consolidated, moderately-poorly sorted, slightly argillaceous, slightly calcareous, occasionally specks lithic material and Glauconite, no apparent porosity, NSFOC.
- 3550-3650      Shale - tan, occasionally medium to dark gray, frequently grayish black-occasionally cream, moderately soft, slightly-moderately carbonaceous occasionally highly carbonaceous.
- Some Siltstone - ranging to very fine grained Sandstone - as above.
- Some Argillaceous Dolomite-Limy Dolomite - as above.

- 3650-3700 Limestone-Argillaceous Limestone - tan-buff, moderately firm-firm, cryptocrystalline-occasionally microcrystalline, frequently pyritic, dense, frequently siliceous.
- 3700-50 Shale - tan-light to medium gray-occasionally buff-brownish gray, generally soft-moderately soft, slightly-moderately calcareous, slightly-moderately carbonaceous, occasionally Pyrite.
- Some Argillaceous Limestone-Limestone - tan-buff, microcrystalline-cryptocrystalline, moderately soft, dense, very slightly carbonaceous in part.
- 3750-3800 Shale - medium-dark gray-brownish gray, occasionally orangish-yellowish brown, generally moderately soft, slightly-moderately calcareous, generally moderately carbonaceous, frequently pyritic, sub-blocky in part.
- Argillaceous Limestone-Limestone - as above.
- Some Argillaceous Dolomite - slightly mahogany, slightly marly, moderately-highly carbonaceous, cryptocrystalline-microcrystalline, moderately firm, dense.
- 3800-50 Shale - light-medium gray - tan - occasionally cream, moderately firm-moderately soft, frequently pyritic, slightly-moderately calcareous, slightly carbonaceous in part, occasionally silty, sub-blocky in part.
- Some Argillaceous Limestone-Limestone - as above.
- Some Siltstone - generally milky, slightly-moderately calcareous, slightly-moderately argillaceous, moderately unconsolidated, moderately-poorly sorted, generally tight, trace light tan pinpoint oil stain, weak-very weak dull yellow flu and very weak dull yellow halo cut.
- 3850-3900 Siltstone - ranging to very fine grained Sandstone - light gray-milky, well consolidated, moderately-poorly sorted, slightly calcareous, slightly-moderately argillaceous, frequently specks lithic material, Glauconite and Pyrite, no apparent porosity, NSFOC.

Shale – light–medium gray, moderately firm–moderately soft, commonly silty, slightly–moderately calcareous, frequently specks of carbonaceous material, commonly pyritic.

3900–50

Shale – light–medium gray as above, less silty, also Shale – tan, dark gray–dark brown, commonly slightly orange tinge, moderately firm–moderately soft in part, slightly calcareous, moderately–highly carbonaceous, sub–fissile in part, trace algal laminae.

Some Argillaceous Dolomite as 3750–3800 above – mahogany – medium to dark brown.

3950–4000

Shale – medium gray–slightly brown gray, occasionally light gray, soft–moderately soft, commonly gritty–silty, slightly–moderately calcareous, frequently specks of carbonaceous material, commonly pyritic, sub–blocky in part.

Some Siltstone – light gray–occasionally milky, generally moderately–highly argillaceous, moderately firm–firm, poorly sorted, slightly–moderately calcareous, some carbonaceous material in part, frequently pyritic, dense, NSFOC.

4000–50

Shale – medium–dark brown – tan – frequently dark gray–grayish black, soft–moderately firm, slightly–moderately calcareous, moderately–highly carbonaceous, some algal laminae.

Some Argillaceous Dolomite–Limy Dolomite – medium brown–tan, microcrystalline–cryptocrystalline, moderately firm, dense, slightly–moderately carbonaceous, trace Pyrite.

4050–4100

Shale – medium–light gray – brownish gray – occasionally medium brown–cream, moderately firm–moderately soft, slightly–moderately carbonaceous, slightly–moderately calcareous, sub–blocky in part, frequently pyritic.

Limestone–Argillaceous Limestone – tan–buff, microcrystalline, moderately firm, slightly carbonaceous in part, trace ostracods, dense.

4100–50

Shale – light–medium gray–cream, very slightly emerald tinge in part, moderately firm–moderately soft, slightly–moderately calcareous, commonly silty, some Pyrite.

Siltstone – ranging to very fine grained Sandstone – milky to light gray, generally moderately consolidated, moderately–poorly sorted, slightly–moderately argillaceous, slightly–moderately calcareous, some specks of carbonaceous material in part, occasionally Glauconite, generally tight, some fair intergranular porosity, NFSOC.

4150–4189

Sandstone – very fine–fine grained, milky–clear, moderately unconsolidated–slightly friable in part, slightly argillaceous in part, slightly calcareous in part, moderately well sorted, sub–angular to sub–round, occasionally lithic fragments, Glauconite and Pyrite, some fair–good intergranular porosity, generally spotty pinpoint medium brown oil stain, very weak dull yellow fluorescence in part, weak bluish yellow glow cut. Need to confirm potential with E–logs, show not that good.

Shale – light gray–cream, moderately firm–moderately soft, slightly–moderately calcareous, slightly carbonaceous in part, frequently pyritic.

Some Argillaceous Dolomite–Limy Dolomite – orangish brown–yellowish brown, occasionally mahogany–medium brown, microcrystalline, moderately firm–moderately soft, moderately carbonaceous, dense.

TOH at 4189' to switch to fluid and change bit.

4189–4230

Shale, Sandstone, and Argillaceous Dolomite–Limy Dolomite generally as above, sample highly mixed and probably much cavings.

4230–60

Shale – slightly emerald–light gray–cream in part, moderately soft, very slightly calcareous in part, frequently silty, some occasionally specks of carbonaceous material, occasionally pyritic.

Sandstone – very fine–fine grained ranging to Siltstone, milky–light gray–clear, moderately well consolidated, slightly–moderately argillaceous, slightly calcareous in part, some Glauconite, occasionally pyritic, moderately well sorted, sub–angular, some fair intergranular porosity, generally NSFOC, occasionally very faint light brown uneven–pinpoint oil stain, with faint very weak dull yellow fluorescence, and weak dull bluish–yellow glow cut. Not considered commercial.

Some Argillaceous Dolomite–Limy Dolomite – as above.

4260-90

Shale - light gray-slightly emerald - occasionally cream, generally as above, more Pyrite.

Sandstone - very fine grained - ranging to Siltstone, generally light tan, slightly argillaceous, slightly calcareous, moderately well-consolidated, moderately sorted, sub-angular, fair-poor intergranular porosity, generally even light tan oil stain, fair dull yellow fluorescence, fair dull yellow glow cut. Porosity and permeability probably too low to be commercial, need to confirm potential with E-logs.

Argillaceous Dolomite-Limy Dolomite as above.

4290-4320

Shale - medium-light gray to slightly emerald, occasionally cream, moderately soft-soft, slightly calcareous, frequently silty, abundant Pyrite, sub-blocky, slightly carbonaceous in part.

Siltstone - ranging to very fine grained Siltstone, milky-light gray, firm-moderately hard, siliceous in part, slightly calcareous, slightly argillaceous, moderately-poorly sorted, well consolidated, commonly pyritic, slightly carbonaceous in part, tight, NSFOC.

4320-50

Sandstone - very fine-fine grained ranging to Siltstone, milky-light gray occasionally clear, generally well consolidated, commonly medium-dark brown specks of carbonaceous material, slightly argillaceous in part, slightly calcareous, Pyrite common, no apparent porosity, NSFOC.

Shale - light gray-cream, moderately soft, slightly-moderately calcareous, frequently silty, specks of carbonaceous material common, frequently microcrystalline disseminated Pyrite.

4350-4410

Siltstone - milky-white-occasionally slightly emerald, occasionally very fine grained Sandstone, occasionally specks of carbonaceous material, slightly-moderately calcareous, slightly argillaceous, well consolidated, some Glauconite and Pyrite, tight, NSFOC.

Shale - light gray-gray - slightly emerald in part, generally soft, slightly-moderately calcareous, occasionally silty, occasionally speck carbonaceous material, trace Pyrite.

4410-40

Shale - medium-light gray occasionally dark gray-cream, soft, slightly-moderately calcareous, slightly carbonaceous, occasionally silty, frequently pyritic, sub-blocky in part.

Some Siltstone - milky-clear, moderately well consolidated, slightly argillaceous, slightly-moderately calcareous, tight, NSFOC.

Some Argillaceous Dolomite-Limy Dolomite - orangish brown-yellowish tan, microcrystalline, firm-moderately soft, slightly-moderately carbonaceous, frequently crystalline Calcite, dense.

4440-70

Shale - light gray-cream-frequently slightly emerald, moderately firm-moderately soft, slightly calcareous, slightly carbonaceous in part, sub-blocky in part, frequently silty.

Siltstone - ranging to very fine grained Sandstone, generally milky-clear, moderately well consolidated, slightly calcareous, slightly argillaceous, sub-angular, tight, some Pyrite, some Sandstone very fine grained, medium-dark brown even to spotty oil stain, moderately unconsolidated, moderately sorted, slightly calcareous in part, slightly argillaceous in part, some fair intergranular porosity, fair dull yellow fluorescence, fair dull bluish burst cut to fair bright yellow glow - slow bleeding cut. Not much Sandstone in sample with show, could be cavings. Need to confirm zone with E-logs, may be commercial if porous and thick enough.

4470-4500

Shale as above, but increase in emerald color.

Siltstone - ranging to Sandstone as above, but NSFOC.

Argillaceous Dolomite - Limy Dolomite as above.

4500-30

Shale as 4440-70 above.

Siltstone ranging to very fine grained Sandstone as 4440-4470 above, but NSFOC.

Some Argillaceous Dolomite-Limy Dolomite as above, some mahogany color.

4530-60

Shale - light-medium gray-cream occasionally slightly emerald-slightly rust, moderately soft, frequently silty, slightly-moderately calcareous, frequently specked with carbonaceous material, occasionally pyritic, sub-blocky in part.

Sandstone - very fine-fine grained - ranging to Siltstone - milky-very light tan in part, generally moderately consolidated-slightly friable in part, slightly calcareous in part, slightly-moderately argillaceous in part, moderately-well sorted in part, some Pyrite, Glauconite and carbonaceous material in part, some fair-good intergranular porosity, some faint light brown even-pinpoint spotty oil stain, gold dull yellow fluorescence, very weak bluish burst cut-weak bluish yellow glow cut.

Probably commercial if E-logs confirm sufficient porosity and zone thickness even though not a large percentage of sample has shows.

4560-90

Shale - dark gray-dark brownish gray, occasionally medium gray, moderately firm-moderately soft, slightly calcareous, frequently microcrystalline disseminated Pyrite, moderately-highly carbonaceous, sub-blocky in part.

Argillaceous Dolomite - medium-dark brown, cryptocrystalline-microcrystalline, moderately firm, slightly-moderately carbonaceous, dense.

4590-4620

Shale - medium gray, moderately soft-soft, frequently silty, slightly-moderately calcareous, slightly carbonaceous, sub-blocky in part, occasionally pyritic.

4620-50

Shale - light-medium gray-occasionally cream as above, also Shale - dark brownish gray-medium to dark brown, moderately firm, slightly-moderately calcareous, moderately carbonaceous, sub-blocky, commonly pyritic.

4650-80

Shale - dark gray-brownish gray occasionally black, frequently with orange cast, soft-occasionally moderately firm, slightly-moderately calcareous, moderately-highly carbonaceous, probably good source rock, sub-blocky in part, some Shale -light-medium gray as above.

Some Argillaceous Dolomite as 4560-90 above.

- 4680-4710      Shale - light gray-slightly emerald-cream, moderately soft, slightly-moderately calcareous, frequently silty, frequently specks carbonaceous material.
- Siltstone - ranging to very fine grained Sandstone - milky-light gray, generally well consolidated, slightly-moderately argillaceous, slightly-moderately carbonaceous, moderately-poorly sorted, frequently pyritic, commonly specks of carbonaceous material. No apparent porosity, NSFOC.
- Some Limestone - light tan-buff, occasionally milky, microcrystalline-cryptocrystalline, moderately firm, dense, abundant ostracods, some spar-crystalline Calcite.
- 4710-40      Shale - light gray-cream as above.
- Siltstone - occasionally ranging to very fine grained Sandstone - as above.
- 4740-80      Shale - dark gray-dark grayish black, generally brown-bronze cast, moderately soft-soft, slightly calcareous, moderately-highly carbonaceous, highly pyritic, sub-fissile in part, some Shale - light-medium gray-cream - as above.
- Some Limestone-Argillaceous Limestone - tan - light to medium brown, microcrystalline-cryptocrystalline, moderately firm, dense, trace ostracods.
- 4780-90      Sandstone - very fine grained ranging to Siltstone - milky-light gray, frequently specked with medium to dark brown carbonaceous material, commonly pyritic, slightly-moderately argillaceous, slightly-moderately calcareous, poorly sorted, generally tight, some fair intergranular porosity, trace spotty medium brown oil stain, trace dull gold fluorescence, trace very weak dull yellow glow cut.
- Shale - light gray-cream, spotty-mottled with medium to dark brown carbonaceous material, commonly Pyrite, moderately soft-soft, frequently silty.
- 4790-4800      Shale - generally medium gray occasionally light gray-cream, soft, slightly-moderately calcareous, frequently silty, frequently pyritic, sub-blocky.

- Sandstone – very fine–fine grained ranging to Siltstone – milky–light gray–occasionally clear, well consolidated, frequently siliceous, commonly pyritic, poorly–moderately sorted, slightly argillaceous, slightly calcareous in part, tight, NSFOC, some lithic fragments.
- 4800–30      Shale – medium–dark gray, occasionally light gray, moderately soft–soft, generally silty, slightly–moderately carbonaceous, slightly pyritic.
- Some Sandstone – very fine–fine grained ranging to Siltstone, well consolidated, slightly–moderately argillaceous, slightly calcareous, moderately–poorly sorted commonly lithic fragments and pyritic, tight, NSFOC.
- 4830–60      Sandstone – very fine–fine grained ranging to Siltstone, milky–clear, commonly peppered with lithic fragments, Glauconite, frequently Mica, moderately well sorted, some argillaceous material in part, slightly calcareous, tight, NSFOC.
- Some Shale – light gray–cream occasionally slightly emerald, moderately soft, slightly calcareous, slightly specked with carbonaceous material, silty in part.
- 4860–90      Shale – as above, generally light gray, frequently cream.
- Siltstone – ranging to very fine grained Sandstone, as above.
- 4890–4920      Sandstone – very fine–fine grained occasionally ranging to Siltstone, milky, moderately well consolidated–slightly friable in part, slightly argillaceous in part, slightly calcareous in part, moderately well sorted, trace Glauconite, sub–angular, some fair–good intergranular porosity. Frequently pinpoint medium brown oil stain–oil droplets, occasionally even light brown oil stain, generally no fluorescence, weak dull bluish yellow burst cut–fair bright yellow glow. Note approximately one–half of Sandstone cuttings have no show. Zone likely commercial if thick enough.
- Shale – light gray–cream, moderately soft–soft, slightly–moderately calcareous, frequently pyritic, some carbonaceous material in part.

- 4920-50      Shale - medium gray-tannish gray, occasionally emerald-slightly rust-cream, moderately firm-moderately soft, slightly calcareous in part, slightly carbonaceous in part, occasionally silty, some Pyrite.
- Some Sandstone - very fine grained ranging to Siltstone, milky-light gray, generally well consolidated, slightly-moderately argillaceous, slightly-moderately calcareous, generally poorly sorted, sub-angular, frequently specked with carbonaceous and Pyrite, tight, NSFOC.
- Argillaceous Dolomite-Limy Dolomite - orangish brown-tan-yellowish tan, firm-moderately soft, microcrystalline-cryptocrystalline, moderately carbonaceous, dense, some crystalline Calcite.
- 4950-80      Shale - dark gray-dark brownish gray commonly orangish-bronze cast, occasionally grayish black, moderately firm-moderately soft, slightly-moderately calcareous, moderately-highly carbonaceous, sub-fissile to sub-blocky. Some Shale - slightly emerald-light gray-cream - as above.
- 4980-5010      Shale - light-medium gray-cream, moderately soft, slightly-moderately calcareous, slightly carbonaceous in part, occasionally silty, some Pyrite, sub-blocky in part.
- Some Sandstone - very fine grained ranging to Siltstone as 4920-50 above.
- 5010-40      Shale - slightly emerald-light to medium gray, moderately firm in part, generally moderately soft, slightly-moderately calcareous, very slightly carbonaceous in part, commonly silty, frequently sub-blocky.
- Sandstone - very fine-fine grained ranging to Siltstone, milky-white-slightly emerald, generally well consolidated, poorly sorted, slightly-moderately argillaceous, slightly calcareous, some lithic fragments, Glauconite and Pyrite, tight, NSFOC, siliceous in part.
- Argillaceous-Dolomite-Limy Dolomite - as above.
- Sample highly mixed, may be high percentage of cavings.
- 5040-70      Shale - medium gray - occasionally light gray-cream, moderately soft, slightly-moderately calcareous, slightly carbonaceous in part, frequently silty, some Pyrite.

Sandstone – very fine grained commonly ranging to Siltstone, milky–light brown, moderately well consolidated–slightly friable in part, moderately well sorted, slightly argillaceous, slightly calcareous, some Glauconite and lithic particles, sub–angular to sub–round, approximately one–half of Sandstone has light–medium brown even oil stain, very weak dull yellow fluorescence in part, weak bright yellow glow cut. Probably some fair–good porosity but difficult to see due to extremely fine grains. Possibly commercial if porosity is high enough, but permeability likely is low.

5070–5100

Shale – light–medium gray – occasionally tan–cream – medium brown, moderately firm–moderately soft, slightly–moderately carbonaceous in part, silty in part, slightly–moderately calcareous, sub–blocky in part, some Pyrite.

Sandstone – very fine grained commonly ranging to Siltstone, generally as above with same percentage of show, but rock generally even more fine grained on average. Doubtful this would be commercial.

5100–30

Shale – light gray–light emerald tinge – cream, moderately soft–soft, slightly–moderately calcareous, frequently speck carbonaceous material, frequently silty–gritty, commonly Pyrite.

Some Siltstone – ranging to very fine–fine grained Sandstone, milky light gray, well consolidated, moderately–poorly sorted, slightly argillaceous in part, slightly calcareous, some Glauconite and Pyrite, sub–angular, tight, NSFOC.

5130–60

Shale – as above.

Sandstone – very fine grained ranging to Siltstone – milky–light brown, moderately well consolidated, slightly argillaceous in part, slightly calcareous in part, sub–angular to sub–round, some specks of carbonaceous material, moderately well sorted, some fair–good intergranular porosity, approximately 50% of Sandstone has light brown even–uneven oil stain, no fluorescence, very weak–weak bluish–yellow streaming–oozing cut in part. Questionable commercial potential based on extremely fine sand grains, likely low porosity and permeability, and overall quantity and quality of show. Definitely need to review E–logs to further evaluate this zone's potential.

- 5160-90 Shale - generally medium-dark tannish gray, occasionally medium-light gray, moderately soft, slightly-moderately calcareous, moderately carbonaceous, commonly pyritic, sub-blocky to sub-platy in part, occasionally silty.
- 5190-5220 Shale - generally medium-light gray, moderately soft, slightly-moderately calcareous, slightly carbonaceous in part, frequently silty-gritty.
- Some Argillaceous Dolomite-Limy Dolomite - as above.
- 5220-50 Shale - light-medium gray, occasionally emerald-rust - as above.
- Argillaceous Dolomite-Limy Dolomite - orangish brown-yellowish tan, firm-soft, microcrystalline-cryptocrystalline, moderately carbonaceous, frequently crystalline spar Calcite, dense.
- Sandstone - very fine grained ranging to Siltstone - light-medium brown to light gray-milky, moderately well consolidated-slightly friable in part, generally moderately well sorted, slightly calcareous, slightly argillaceous in part, some Glauconite and Mica, sub-angular to sub-round, some fair intergranular porosity, generally even light-medium brown oil stain, very faint dull yellow fluorescence in part, very weak bluish milky cut-weak dull yellow halo cut. If zone porous enough, may have commercial potential, but zone very fine grained and permeability is suspect. Need to confirm potential with E-logs.
- 5250-70 Shale - light-medium gray-emerald - rust - cream, moderately soft-moderately firm in part, slightly-moderately calcareous in part, slightly carbonaceous in part, frequently silty, occasionally sandy, mottled with carbonaceous material in part.
- Argillaceous Dolomite-Limy Dolomite - as above.
- Sandstone - very fine grained ranging to Siltstone, generally light gray-milky, moderately well consolidated, moderately-poorly sorted, slightly-moderately argillaceous, slightly-moderately calcareous, sub-angular to sub-round to lithic particles and Glauconite. Some poor intergranular porosity, generally NSFOC, some light brown uneven-spotty oil stain, no fluorescence, very faint trace bluish yellow glow-oozing cut.

5270-80

Sandstone - generally very fine grained, occasionally ranging from fine grained to Siltstone, moderately unconsolidated-slightly friable in part, generally light-medium brown, moderately well sorted, slightly argillaceous in part, slightly calcareous in part, some lithic particles. Sub-angular to sub-round. Some fair-good intergranular porosity. Generally good-fair even light-medium brown oil stain, fair dull yellow fluorescence, very weak bluish burst cut-fair dull yellow glow-ooze cut. Large quantity of Sandstone with show. If E-logs confirm adequate porosity, then this zone has potential to be commercial.

Some Shale - as above.

Some Argillaceous Dolomite-Limy Dolomite - as above.

5280-5310

Shale as 5250-70 above.

Argillaceous Dolomite-Limy Dolomite - as above.

Sandstone - very fine-fine grained ranging to Siltstone - light gray-milky-light brown, frequently specks of carbonaceous material, moderately well consolidated, slightly-moderately argillaceous, slightly-moderately calcareous, moderately-poorly sorted. Generally tight-poor intergranular porosity, NSFOC. Some Sandstone as above and some with uneven-spotty oil stain, very weak dull yellow fluorescence in part and very weak dull yellow glow-ooze cut. Reservoir quantity and quality of show are significantly poorer than 5270-80 interval.

5310-40

Sandstone - very fine-fine grained ranging to Siltstone - milky-light brown, moderately well consolidated-slightly friable in part, moderately-poor sorting, slightly calcareous in part, slightly argillaceous in part, frequently specks carbonaceous material, some lithic particles, Glauconite and Pyrite, sub-angular to sub-round. Generally poor-fair intergranular porosity, occasionally good porosity. Generally uneven-spotty light-medium brown oil stain to very faint light brown even oil stain. Much rock has NSFOC. Very weak dull yellow fluorescence in part with very weak dull yellow glow cut in part. It is unlikely this zone has good enough porosity, permeability and oil saturation to be commercial.

Shale - light gray-slightly emerald-cream, slightly mottled with carbonaceous material in part, moderately soft, slightly calcareous, very slightly carbonaceous in part, some Pyrite.

Argillaceous Dolomite-Limy Dolomite - as above.

5340-70

Shale - medium gray-tannish gray, occasionally light gray, moderately soft, slightly-moderately calcareous, slightly carbonaceous, frequently silty, sub-blocky in part.

Some Siltstone - ranging to very fine grained Sandstone, generally as above, siliceous in part, occasionally show as above. Probably cavings.

5370-5400

Shale - light gray-cream, frequently mottled with light-medium brown carbonaceous material, moderately soft-soft, slightly-moderately calcareous, silty in part, some Pyrite.

Argillaceous Dolomite-Limy Dolomite - as above.

Some Sandstone - very fine grained occasionally ranging to Siltstone - moderately well consolidated-occasionally slightly friable, slightly argillaceous, slightly calcareous, frequently specks carbonaceous material, occasionally pyritic, some fair intergranular porosity, frequently uneven-even light brown oil stain, no fluorescence, very weak dull yellow glow-slow streaming cut. Probably not commercial but need to confirm with E-logs.

5400-60

Shale - light gray-cream, frequently emerald, moderately soft-soft, slightly-moderately calcareous, very slightly carbonaceous in part, trace Pyrite, occasionally silty in part, sub-blocky in part.

Some Sandstone - very fine-fine grained occasionally ranging to Siltstone, milky-occasionally clear, well consolidated, slightly argillaceous in part, slightly calcareous, some Glauconite-lithic particles, no apparent porosity, NSFOC.

Some Argillaceous Dolomite-Limy Dolomite - as above.

5460-90

Shale - generally as above, mottled in part.

Some Sandstone - very fine-fine grained, occasionally ranging to Siltstone, moderately well consolidated-frequently friable, milky-light brown in part, moderately-poorly sorted, slightly-moderately argillaceous, slightly calcareous in part, frequently glauconitic, some lithic particles, generally tight-poor intergranular porosity, occasionally fair porosity, even-uneven spotty light-medium brown oil stain, very weak dull yellow fluorescence in part, with very weak full yellow glow-ooze cut. Not considered commercial but should review E-logs for confirmation.

5490-5520

Shale - dark gray-grayish black commonly with bronze cast from abundant microcrystalline disseminated Pyrite, moderately firm, sub-blocky to sub-fissile, generally highly carbonaceous, generally slightly calcareous.

5520-50

Shale - as above, much in contact with Argillaceous Limestone-Limestone, some black Shale is highly petroliferous and coated with dark brown-black oil, much Shale - light gray-tan gray, moderately soft, slightly carbonaceous in part, slightly-moderately calcareous, silty in part.

Some Argillaceous Limestone-Limestone - medium-dark brown to tan - frequently orangish tan, microcrystalline, moderately firm, moderately-slightly carbonaceous, generally dense, some fair-good intercrystalline porosity, good even medium brown oil stain, dull yellow fluorescence, fair-good bluish-yellow burst cut - moderate streaming cut. Some sand mixed in rock. If zone has any sustained thickness and lateral extend, could certainly be prospective. Check E-logs for porosity.

5550-62

Shale - grayish black-dark gray, generally with slightly bronze cast from Pyrite, moderately soft, slightly calcareous, highly carbonaceous-petroliferous in part, sub-blocky to sub-platy in part.

Some Argillaceous Limestone-Limestone - medium-dark brown, moderately firm, cryptocrystalline, dense, slightly-moderately carbonaceous.

5562-80

Shale - as above, also Shale - light gray occasionally in contact with Argillaceous Limestone, occasionally cream, soft, slightly calcareous, very slightly carbonaceous in part, occasionally Pyrite, sub-blocky in part, occasionally silty.

Some Argillaceous Limestone-Dolomite Limestone - medium brown-occasionally dark brown, microcrystalline, firm-moderately firm, slightly-moderately carbonaceous in part, dense.

5580-5610

Shale - light-medium gray-cream, frequently mottled with light brown carbonaceous material, moderately soft, slightly-moderately calcareous, slightly carbonaceous in part, sub-blocky in part, occasionally silty, some Pyrite.

Argillaceous Dolomite-Limy Dolomite - orangish brown-yellowish tan, firm-moderately soft, moderately carbonaceous, dense.

Some Siltstone - ranging to very fine grained Sandstone - milky-light gray, moderately well consolidated, generally poorly sorted, sub-angular, frequently lithic particles, no apparent porosity, NSFOC.

5610-40

Shale - generally as above, frequently medium-dark gray to brownish gray, occasionally emerald.

Some Argillaceous Dolomite-Limy Dolomite as above.

Some Siltstone - ranging to very fine grained Sandstone - as above.

5640-70

Shale - light-medium gray frequently slightly emerald tinge-cream, occasionally mottled. Moderately firm-moderately soft, slightly calcareous in part, slightly carbonaceous in part, sub-platy to sub-splintery.

Sandstone very fine-fine grained occasionally ranging to Siltstone, moderately well consolidated, light brown-milky, moderately well-poorly sorted, slightly-moderately argillaceous, slightly calcareous, occasionally lithic particles, generally fair-poor intergranular porosity, some fair-good porosity, Generally light brown even-spotty oil stain. occasionally medium-dark even brown oil stain. very faint dull yellow fluorescence in part. fair dull bluish yellow burst cut-dull yellow fair halo cut in part. Porosity and permeability appear suspect, need E-log confirmation for sufficient porosity.

5670-5700

Shale - dark brownish gray-grayish black, hard-firm, brittle, moderately-highly calcareous, highly carbonaceous, frequently bronze tinge due to Pyrite, sub-blocky to sub-fissile, frequently very thin Shale laminae.

Some Argillaceous Limestone-Limestone - medium-dark brown, microcrystalline, hard-firm, dense, frequently silty-sandy.

5700-28

Shale - black-dark gray with bronze cast, moderately soft-moderately firm, highly carbonaceous-petroliferous, sub-blocky to sub-fissile, moderately calcareous.

5728-60

Shale - light gray, abundant silt-very fine grained sand size particles, at times probably Argillaceous Siltstone. Moderately soft-moderately firm, highly specked with carbonaceous particles and possibly some lithic particles. Some appear to be medium-coarse dark Shale rip-up clasts.

Siltstone - ranging to very fine-fine grained Sandstone, light gray, moderately-highly argillaceous, much specks of carbonaceous material, some lithic particles and Mica, Shale rip-up clasts as above, well consolidated, poorly sorted, sub-angular, sub-round, dense, NSFOC.

5760-90

Shale - grayish black-moderately gray, generally moderately firm, slightly-moderately calcareous, frequently pyritic, sub-fissile to sub-blocky, brittle in part, frequently Shale laminae. Some Shale - chocolate, soft-marly, probably Bentonite.

5790-5820

Shale - some as above, generally light gray-cream, occasionally emerald, moderately soft, slightly-moderately calcareous, very slightly carbonaceous in part, some Pyrite.

Argillaceous Dolomite-Limy Dolomite - orangish brown-occasionally yellowish tan, firm-moderately soft, slightly-moderately carbonaceous, dense, microcrystalline-cryptocrystalline, frequently crystalline Calcite.

Sandstone - very fine-fine grained - milky to light-medium brown in part, moderately unconsolidated-friable in part, slightly argillaceous, slightly calcareous, moderately well sorted, sub-angular to sub-round. Some fair-good intergranular porosity, frequently lithic particles. Generally uneven spotty light-medium brown oil stain, occasionally light-medium brown even oil stain, very weak dull yellow fluorescence, very weak bluish burst cut-very weak bluish-yellow glow cut. Probably marginal reservoir, permeability likely a problem.

5820-34

Shale - light gray-cream - slightly emerald as above.

Limy Dolomite-Argillaceous Dolomite as above.

Sandstone - very fine-medium grained, average grain size larger than above, porosity slightly better and show as above.

5834-45

Sandstone - generally fine grained ranges from very fine-medium, milky-light brown, generally moderately unconsolidated-friable, slightly argillaceous in part, slightly calcareous in part, some lithic particles, moderately well sorted, sub-round to sub-angular, good intergranular porosity. Fair-good light brown even oil stain-spotty uneven medium brown stain, fair-good dull yellow fluorescence, weak bluish burst cut-weak to fair dull yellow glow-halo cut. This zone appears to exhibit sufficient porosity and oil saturation to be commercial. Abundant quantity of Sandstone in sample.

Some Shale - as above.

Some Limy Dolomite-Argillaceous Dolomite - as above.

5845-80

Shale - light gray - slightly emerald-cream - as above.

Limy Dolomite-Argillaceous Dolomite - as above.

Sandstone - fine-very fine grained, milky-slightly brown in part, moderately unconsolidated, friable in part, moderately-poor sorting, slightly-moderately argillaceous, slightly calcareous, some lithic particles, sub-round to sub-angular, some fair-good porosity, generally spotty dark brown-black oil stain, trace very weak full yellow fluorescence, very weak bluish yellow glow-ooze cut. Probably not commercial, but need to review E-logs.

5880-5910

Shale - light gray-cream occasionally medium gray-slightly emerald, frequently mottled with carbonaceous material, moderately soft, slightly-moderately calcareous.

Argillaceous Dolomite-Limy Dolomite - as above.

Sandstone - generally fine grained, ranging from Siltstone - occasionally medium grained, moderately unconsolidated, milky-white, slightly calcareous, slightly argillaceous in part, sub-angular, no apparent porosity, NSFOC.

5910-17

Sandstone - generally fine grained, ranges from very fine-medium grained, generally milky, moderately unconsolidated-slightly friable in part, slightly calcareous in part, slightly argillaceous in part, some lithic particles and Glauconite, moderately well sorted, sub-round to sub-angular, some faint light tan even oil stain-spotty light brown spotty oil

stain on grain contacts. Oil much lighter in color than above. good bright yellow fluorescence. weak bluish burst cut-weak bluish yellow glow-halo cut, fair-good intergranular porosity. If E-logs confirm sufficient porosity and saturation, then zone definitely warrants evaluation behind pipe.

5917-40

Shale - light gray-cream-slightly emerald as above, some medium-dark gray-brownish gray.

Sandstone - generally as above, but much Sandstone with NSFOC, rock with show as above may be cavings.

Some Limy Dolomite-Argillaceous Dolomite as above.

5940-70

Shales - as above, some rust, slight increase of dark gray-grayish black.

Limy Dolomite-Argillaceous Dolomite as above.

Some Sandstone - generally as above, more poorly sorted, trace show as above.

5970-6000

Shale - light-medium gray-cream, generally either specked or mottled with carbonaceous material, moderately soft, frequently silty, slightly calcareous.

Sandstone - very fine grained ranging from Siltstone - occasionally fine grained, milky-light gray, generally well consolidated, slightly-moderately argillaceous, slightly calcareous, generally poorly sorted, some lithic particles, trace Glauconite, sub-angular, generally tight-poor porosity, some carbonaceous material, generally NSFOC, some Pyrite.

6000-30

Shale - light-medium gray, frequently dark brownish gray-dark gray. Moderately firm-moderately soft, silty in part, slightly-moderately calcareous, slightly-moderately carbonaceous, some Pyrite.

Some Siltstone - ranging to very fine Sandstone, slightly gray-milky, well consolidated, slightly-moderately argillaceous, slightly calcareous, some specks carbonaceous material in part, poorly-moderately sorted, tight, NSFOC.

6030-90

Shale - medium-dark gray - dark brownish gray, frequently light gray, moderately soft, generally moderately carbonaceous, moderately-slightly calcareous, commonly abundant microcrystalline Pyrite, sub-blocky in part.

6090-6120 Shale - medium-dark gray, frequently light gray, moderately soft, moderately-highly carbonaceous, moderately calcareous, slightly pyritic in part, sub-blocky in part, occasionally silty.

6120-50 Shale - mixture of above with much light-cream-emerald color as 5970-6000 above.

Sandstone - fine grained, ranging from Siltstone - occasionally medium grained, milky-white, moderately well consolidated, slightly calcareous, slightly calcareous, slightly argillaceous, occasionally lithic particles, generally tight, moderately well-poorly sorted, sub-angular, generally NSFOC. Trace spotty oil stain.

6150-75 Shale - generally light gray-cream, highly specked-mottled with carbonaceous material, silty-gritty, moderately soft, slightly-moderately calcareous, frequently slightly emerald-medium gray.

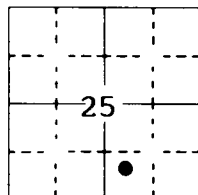
**DRILLERS TOTAL DEPTH - 6175'**

# DENNIS REHRIG & ASSOCIATES, INC.

OIL & GAS CONSULTING

4924 RIMROCK ROAD  
BILLINGS, MONTANA 59106  
(406) 656-4785

## GEOLOGIC WELL LOG



BALCRON MONUMENT FEDERAL 34-25  
800' FSL, 2100' FEL. SEC. 25, T8S-R17E  
UINTAH COUNTY, UTAH

ELEVATIONS: G.L. 5004' (GRADED), K.B. 5014' CONTRACTOR: UNION DRILLING CO.

SPUD: 4:30 PM(MDT) 10/4/95 (ROTARY) RIG: NO. 17

OUT FROM UNDER SURF. CSG.: 2:00 PM(MDT) 10/5/95 DERRICK: CABOT FRANKS, 97' MAST

DATE DRLG. COMP.: 1:30 AM(MDT) 10/14/95

DRAWWORKS: DETROIT 3304, POWERED BY  
ONE 343 DIESEL CAT

DATE WELL COMPLETED: 5:00 AM(MDT) 10/15/95

STATUS: CASED FOR OIL COMPLETION ATTEMPT

PUMPS: 1-GARDINER DENVER FXN,  
14" STROKE, 51/2" LINER

SURF. CSG.: 85/8" TO 299' K.B.

PRODUCTION CSG: 51/2" TO 6108' K.B.

DRILL PIPE: 41/2" OD, 21/4" ID, X-H

COLLARS: 17 jts., 61/2" OD THREAD

CORES: NONE

MUD SYSTEM: AIR/FOAM TO 4189', KCL/WTR  
4189'-TD

DRILL STEM TESTS: NONE

TOTAL BITS: 4

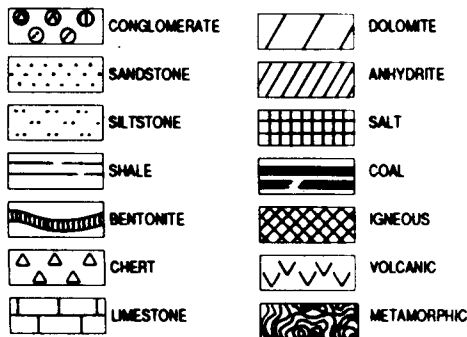
TOTAL DAYS TO LOG POINT: 11 TO COMPL: 12

T.D. DRILLER 6175' LOGGER 6166'

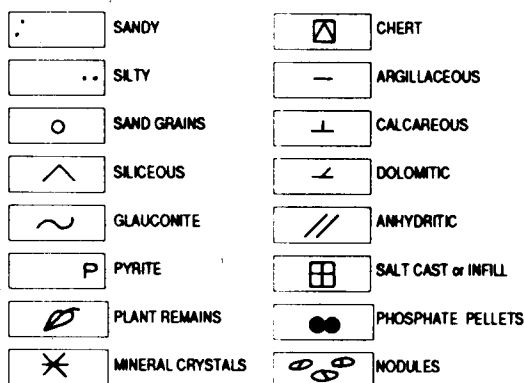
PENETRATION: 376' BELOW TOP OF  
CARBONATE MARKER

## ROCK TYPE

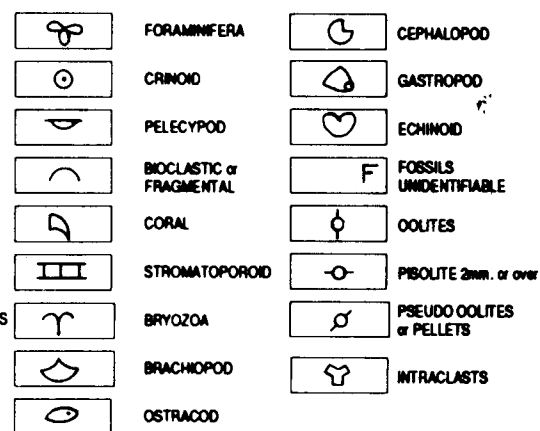
(Consistent with American Stratigraphic Company)



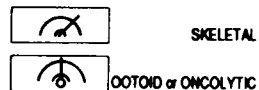
## ACCESSORIES



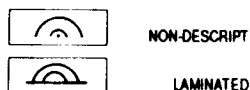
## ORGANIC or NON ORGANIC ALLOCHEMS



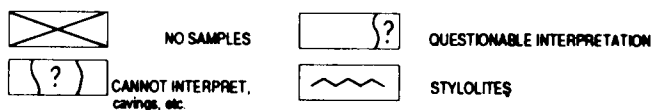
### FRAMEWORK ALGAE



### NON-FRAMEWORK ALGAE



### MISCELLANEOUS



### POROSITY TYPES

- X INTERCRYSTALLINE, INTERGRANULAR, INTERFRAGMENTAL
- Ø INTEROOOLITIC, INTERPELLETOID
- V VUGGY - voids greater than 1/16mm
- P PINPOINT - voids less than 1/16mm
- ~ MOLDIC
- O ORGANIC - bridged, Intrafossil
- F FRACTURE
- e EARTHY - low permeability, crystals less than 1/16mm
- FENESTRAL - voids from gas bubbles, shrinkage cracks & birdseye texture

### OIL STAINS - stain present

- EVEN STAINING, FLOURESCES IN SOLVENT
- SPOTTED STAINING, FLOURESCES IN SOLVENT
- D DEAD, ASPHALTIC, BITUMEN, ETC.
- QUESTIONABLE, NO FLOURESCENCE IN SOLVENT

### EVALUATION LEGEND



WHOLE CORE  
DRILL-STEM TEST  
PERFORATIONS

### DRILLING AND PRODUCTION DATA

	CASING SET	RPM	ROTATION (REV/MIN)
NB	NEW BIT	PP	PUMP PRESSURE
RRB	RERUN BIT	LC	LOST CIRCULATION
CB	CORE BIT	NR	NO RETURNS
DS	DEVIATION SURVEY	TG	TRIP GAS
W/B	WEIGHT ON BIT	CG	CONNECTION GAS

### MUD DATA

V	VISCOSITY
W	WEIGHT IN lbs/gal
WL	FILTRATE IN cc
FC	FILTER CAKE
CL	CHLORIDE CONTENT (ppm)
Rm	MUD RESISTIVITY ( Ω )
Rmf	MUD FILTRATE RESISTIVITY ( Ω )

### ELECTRIC LOG GAMMA RAY / CALIPER

INTERPRETED  
LITHOLOGY  
AND  
DEPTH

### DRILLING PENETRATION RATE (MIN / FT)

CASING &  
PERFORATIONS  
CORE & DST  
OIL  
SHOWS  
POROSITY  
(%)

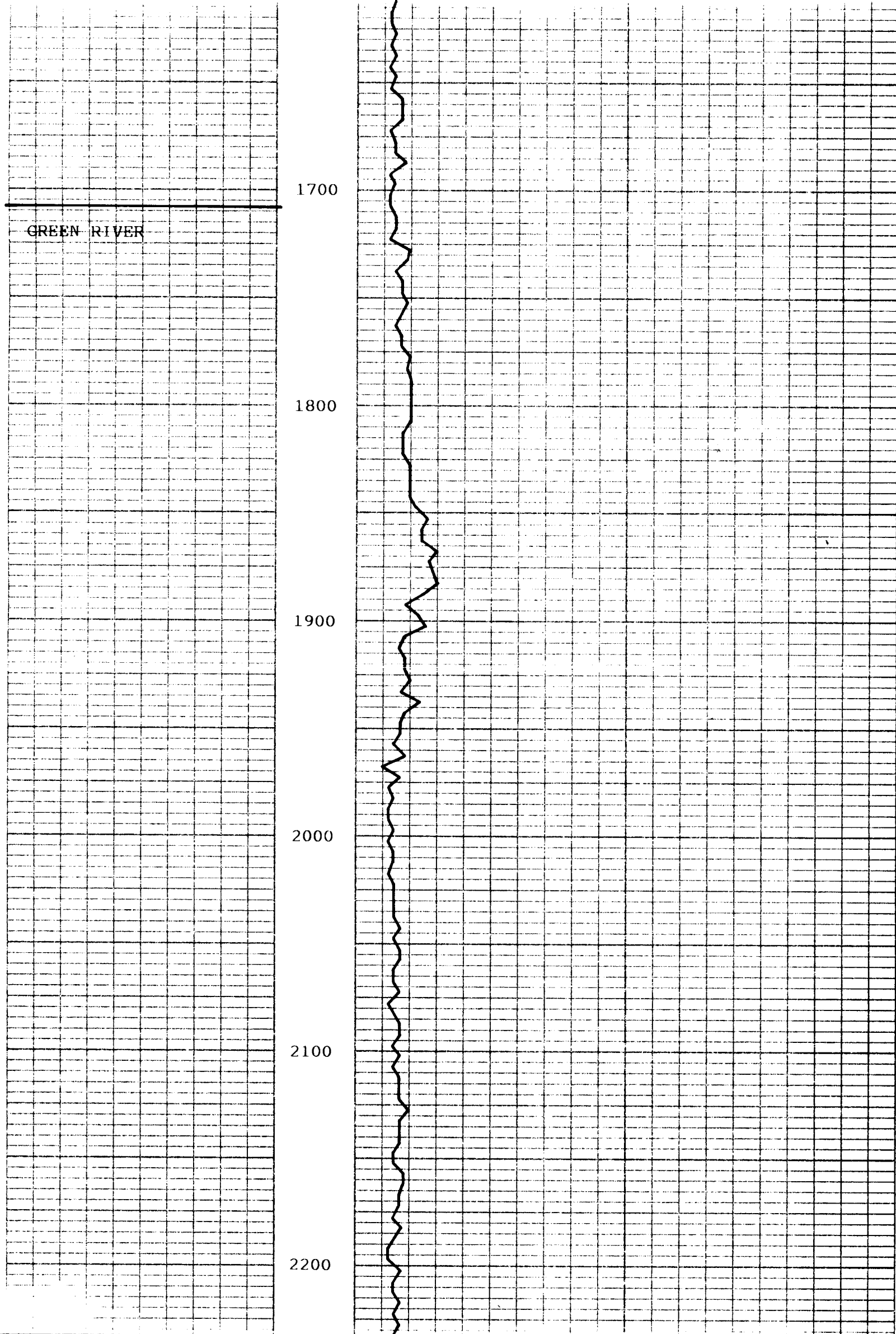
E-LOG TOPS

1500

1600

SAMPLES EXAMINED FROM 1650' - TOTAL  
DEPTH. SEE SAMPLE DESCRIPTIONS  
IN REPORT FOR DETAILS.

INTERPRETATION OF LITHOLOGY & SAMPLES OF SKELETONS  
BASED ON SAMPLES CALIPERED BY MUDLOGGERS  
GENERALLY IN WELL LOGS. TIME OF  
REPORT FOR LITHOLOGY & SAMPLES  
OF SAMPLES, POROSITY & SHOWS.



2300

2400

2500

2600

2700

2800

HORSEBENCH

0

1

2

3

4

5

2900

3000

3100

3200

3300

3400

G-MUDLOGGER GAS SHOW

HAD DIFFICULTY  
UNLOADING HOLE

XO

G

3500

3600

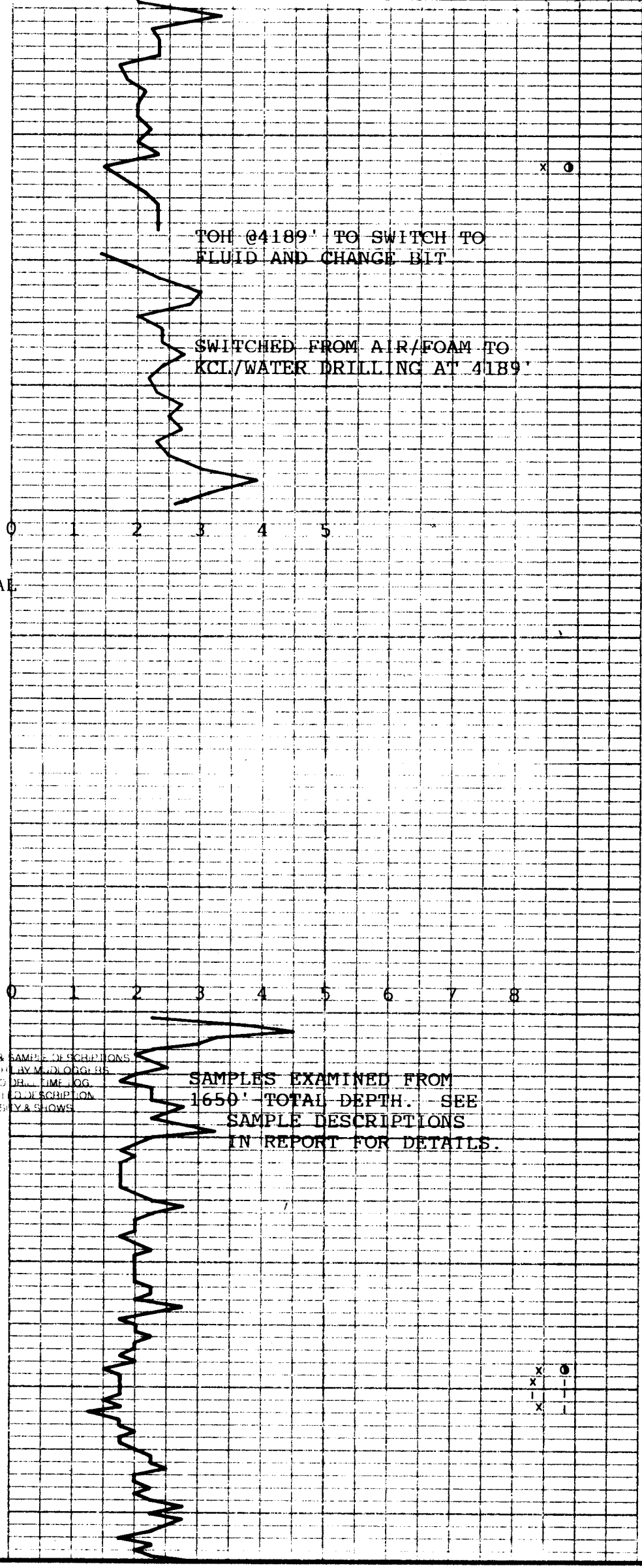
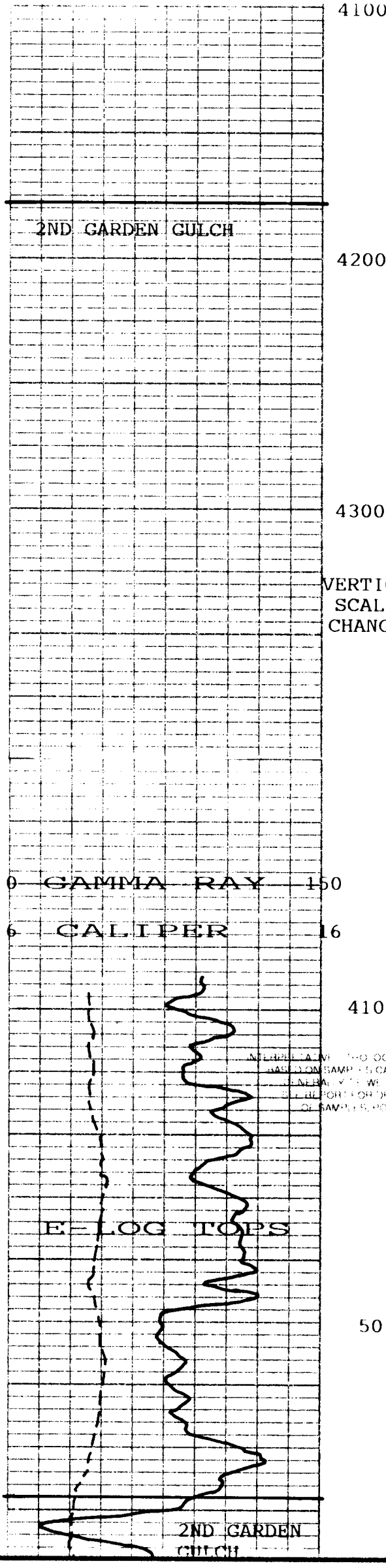
3700

3800

3900

4000





TOH 04189' TO SWITCH  
TO FLUID AND CHANGE  
BIT. CHANGED FROM  
DRILLING WITH AIR/  
FOAM TO KCL/WATER.

ADJUST DRILLTIME  
& SAMPLES UP 8'  
TO TIE WITH E-LOGS

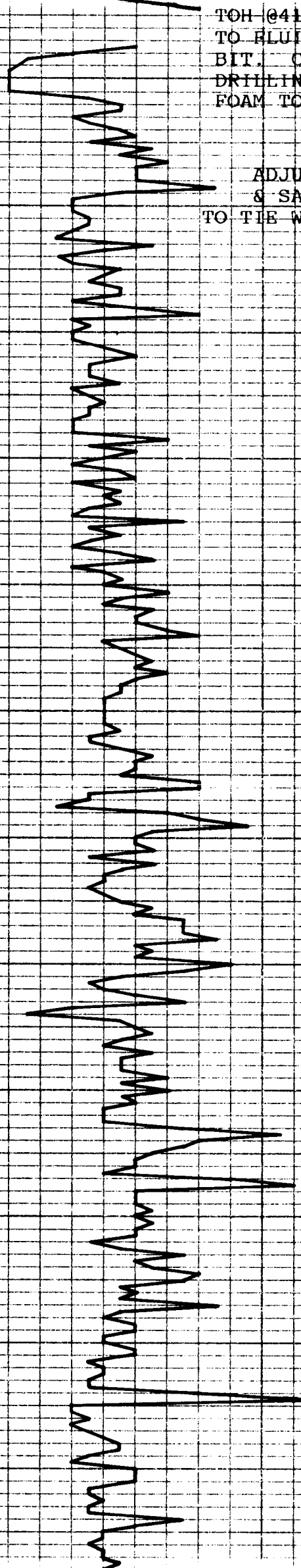
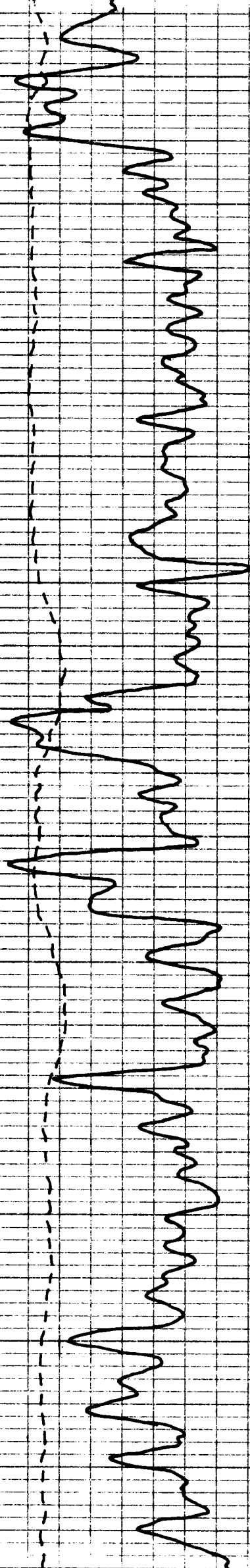
4200

50

4300

50

4400



ADJUST DRILLTIME &  
SAMPLES UP 9' TO  
TIE WITH E-LOGS

X  
X

X  
X

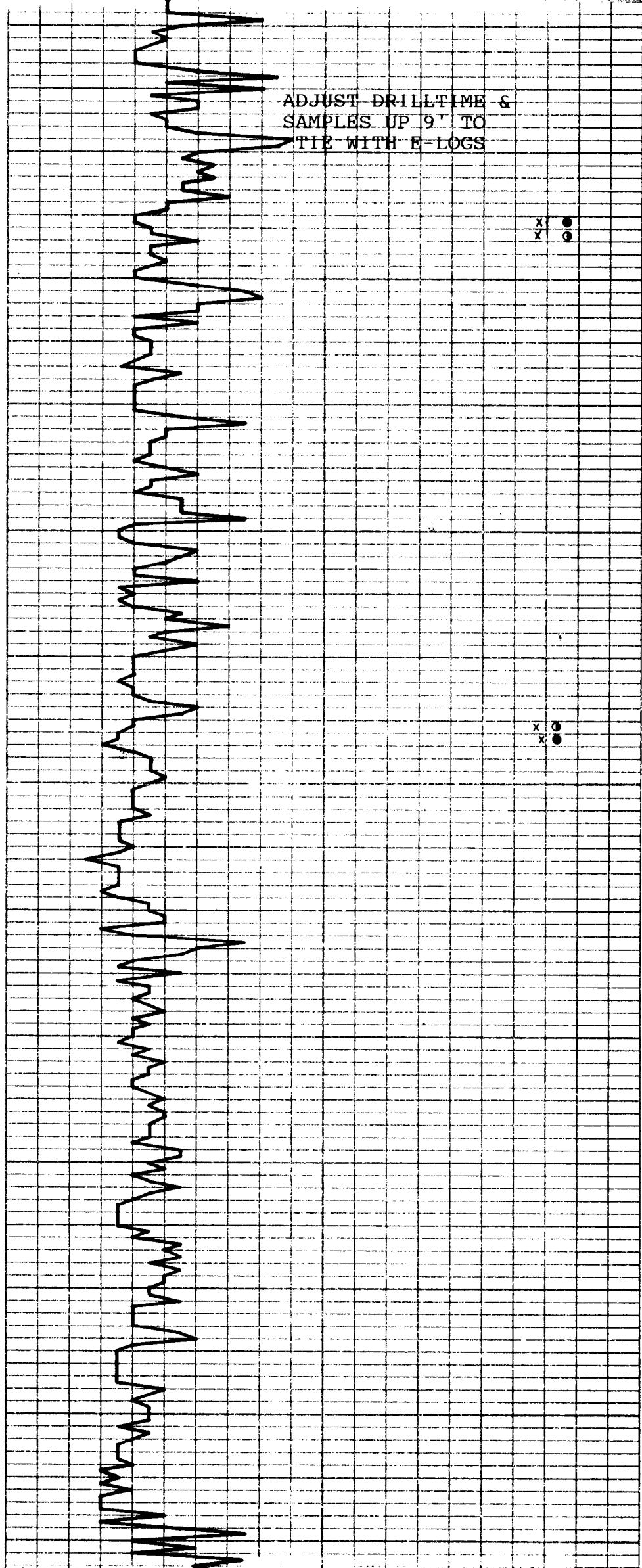
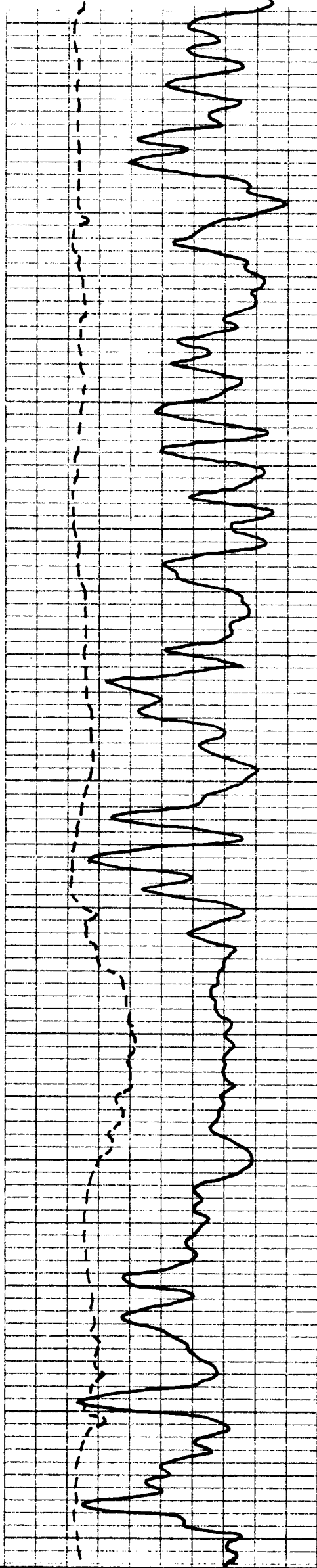
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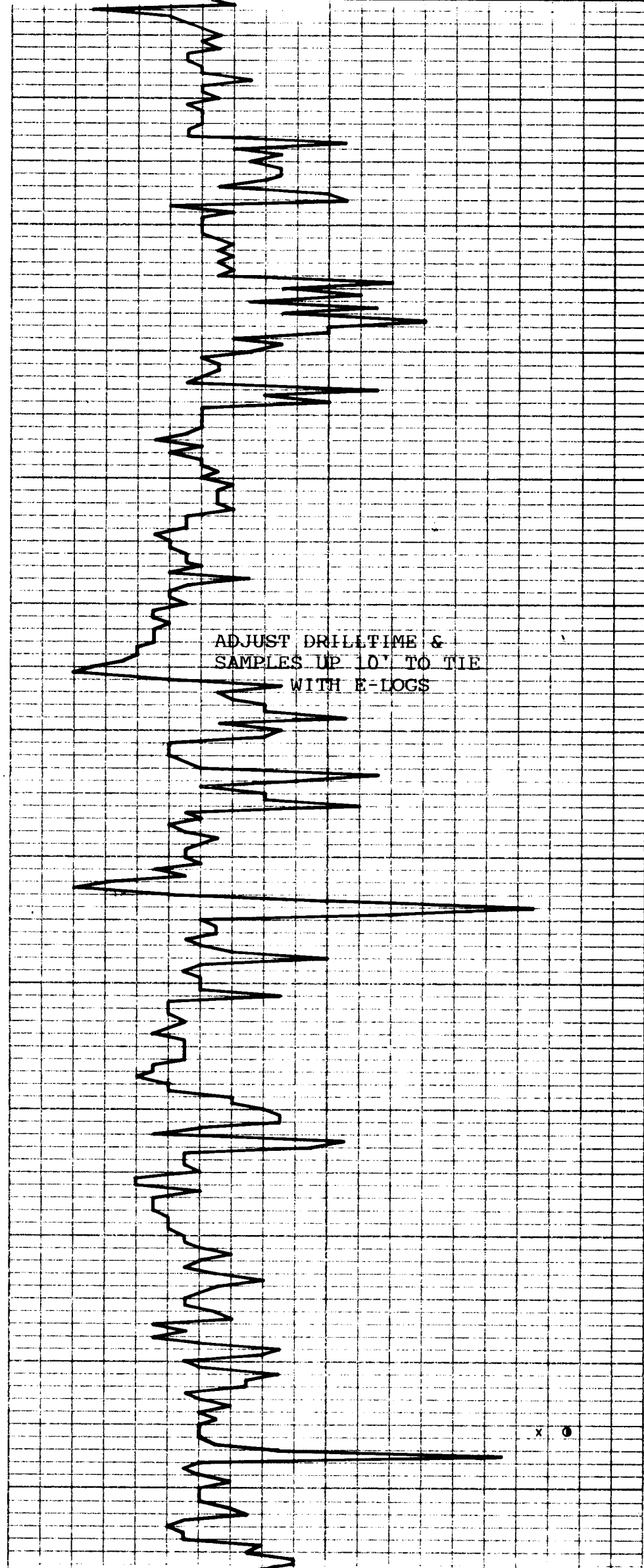
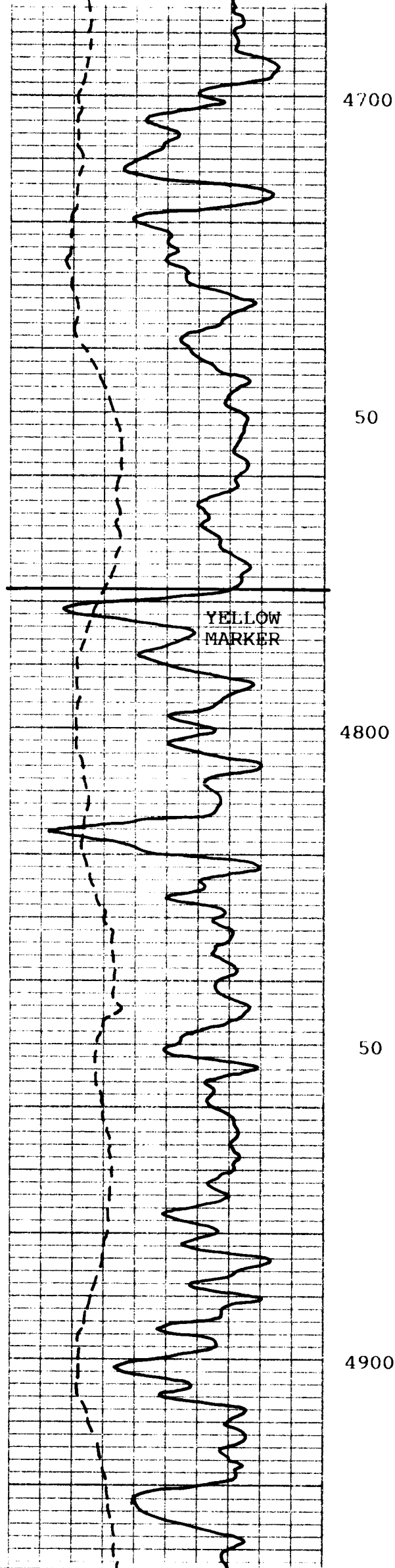
4500

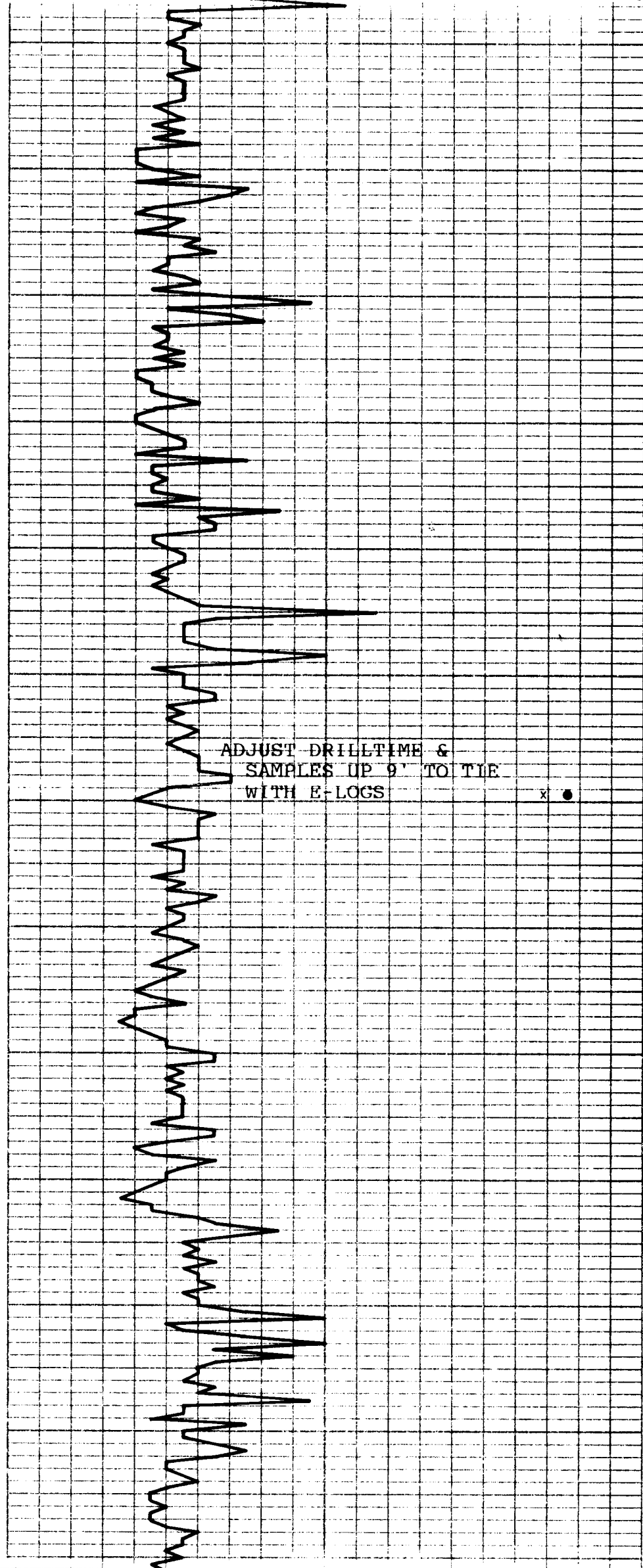
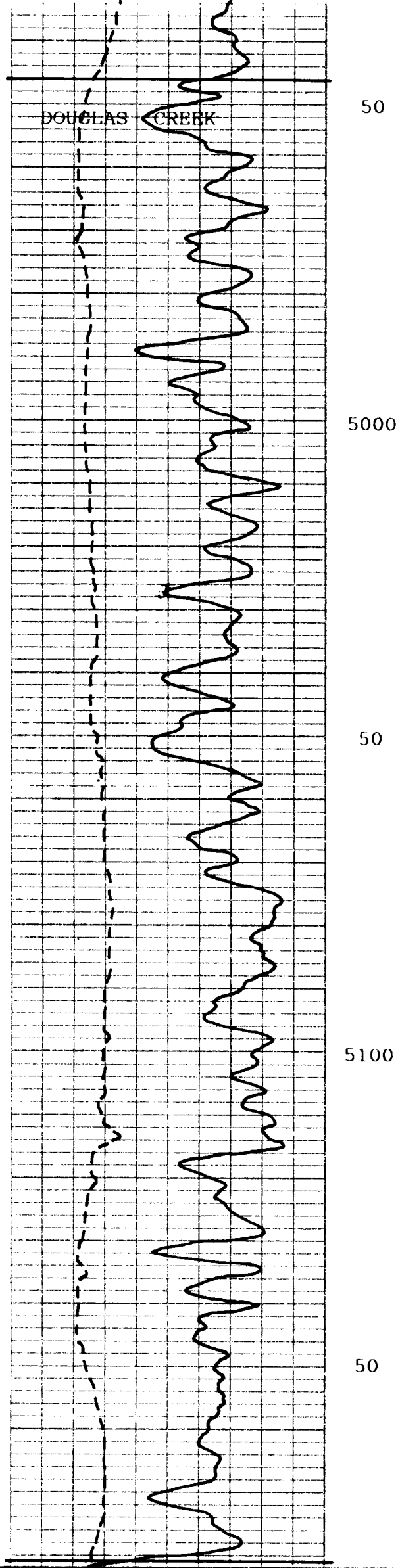
50

4600

50







2ND DOUGLAS CREEK MARKER

5200

50

5300

50

5400

GREEN MARKER

ADJUST DRILLTIME & SAMPLES  
UP 9' TO TIE WITH E-LOGS

x 0  
x x  
x x  
x x  
x x

GEOLOGRAPH LINE BROKE

ADJUST DRILLTIME  
& SAMPLES UP 12'  
TO TIE WITH E-LOGS

50

5500

50

5600

50

ADJUST DRILLTIME &  
SAMPLES UP 10' TO TIE  
WITH E-LOGS

5700

50

CARBONATE MARKER

5800

ADJUST DRILLTIME & SAMPLES  
UP 12' TO TIE WITH E-LOGS

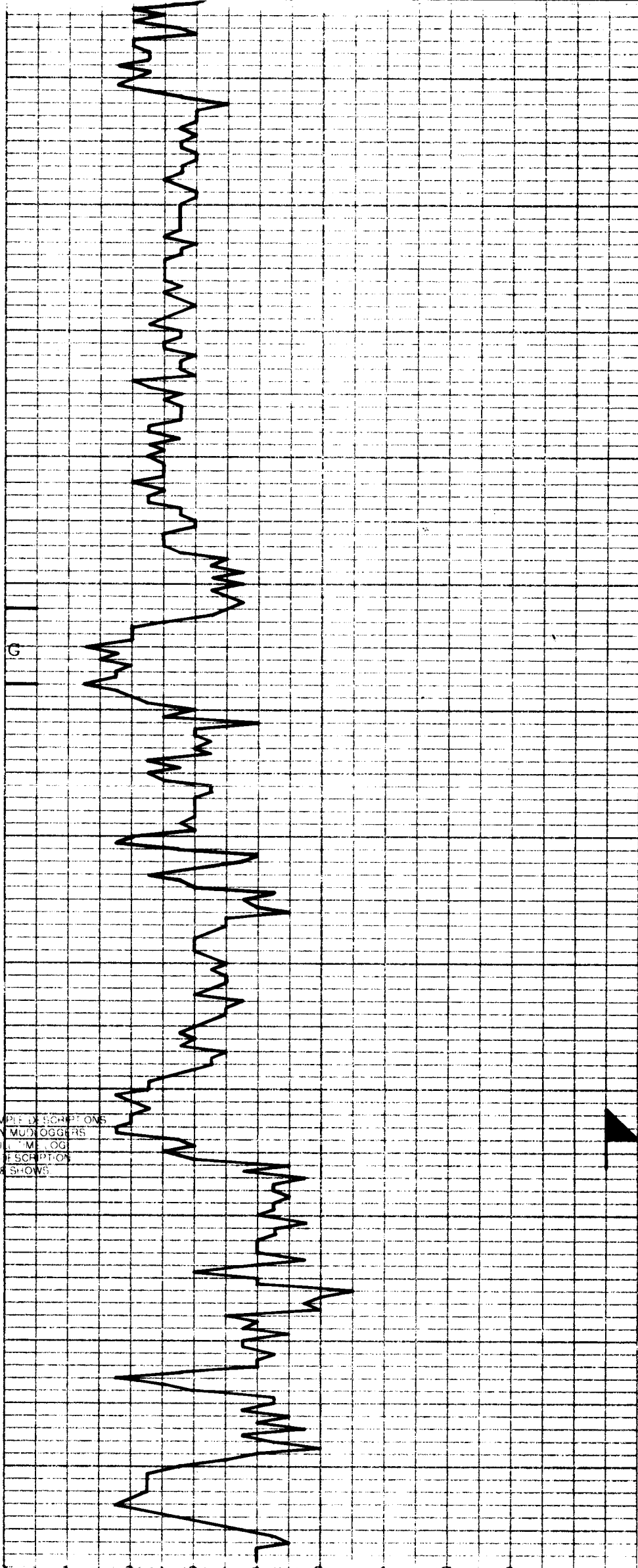
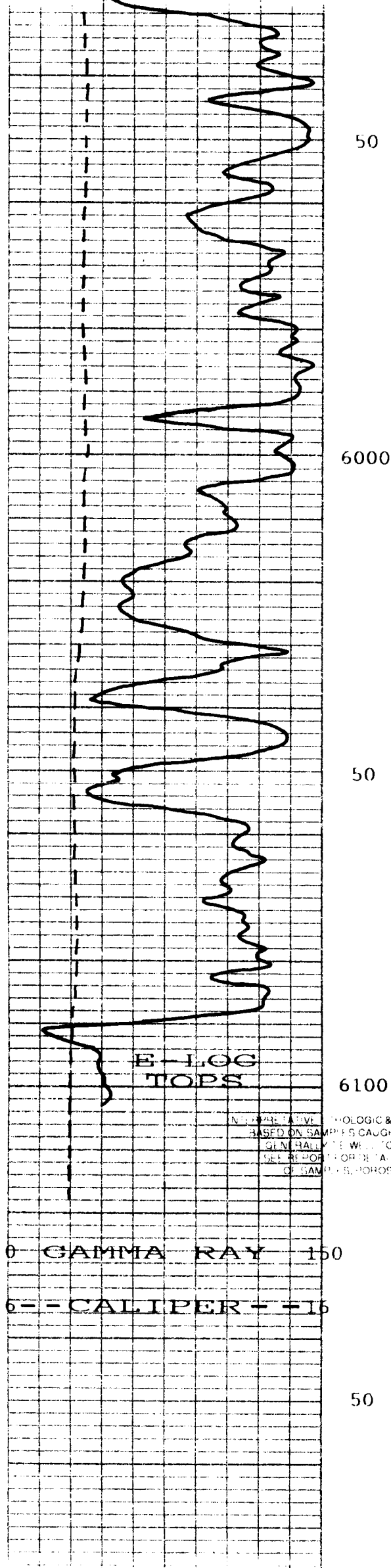
G-MUDLOGGER GAS SHOW

50

5900

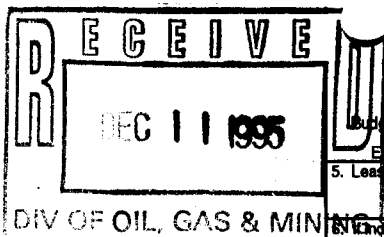
G

G



INTERPRETATIVE GEOLOGIC & SAMPLE DESCRIPTIONS  
BASED ON SAMPLES CAUGHT BY MUDLOGGERS  
GENERALLY WILL TO DRILL TIME LOG  
SEE REPORT FOR DETAILED DESCRIPTION  
OF SAMPLES. PHOTOS & SHOWS





FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993  
5. Lease Designation and Serial No.  
U-67845  
Indian, Allottee or Tribe Name

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.  
Use "APPLICATION FOR PERMIT -" for such proposals

**SUBMIT IN TRIPLICATE**

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

EQUITABLE RESOURCES ENERGY COMPANY, BALCRON OIL DIVISION

3. Address and Telephone No.

1601 Lewis Avenue; Billings, MT 59104 (406) 259-7860

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

SURFACE: SW SE Section 25, T8S R17E  
TD: 800' FSL & 2100' FEL

n/a  
7. If Unit or CA Agreement Designation

n/a

8. Well Name and No.

Balcron Monument Federal #34-25

9. API Well No.

43-047-32670

10. Field and Pool, or Exploratory Area

Undesignated/Green River

11. County or Parish, State

Utah County, Utah

**12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment	<input type="checkbox"/> Change of Plans
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion	<input type="checkbox"/> New Construction
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Altering Casing	<input type="checkbox"/> Conversion to Injection
	<input checked="" type="checkbox"/> Other	<input type="checkbox"/> Dispose Water
	Site Security Diagram	

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Attached is the Site Security Diagram for this well.

14. I hereby certify that the foregoing is true and correct

Signed Molly Conrad Title Operations Secretary

Date 12-6-95

(This space for Federal or State office use)

Approved by

Title

Date

Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*See instruction on Reverse Side

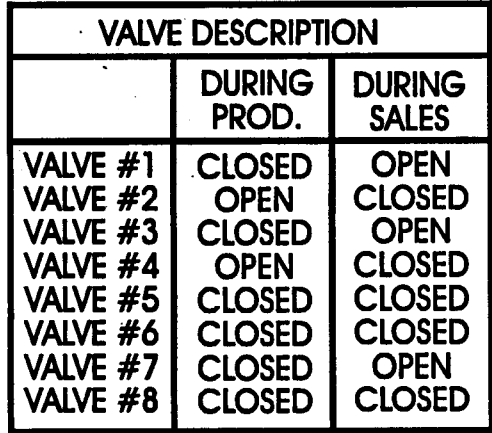
## Balcron Monument Federal 34-25

SW SE Sec. 25, T8S, R17E

# Uintah County, Utah

**Federal Lease #U-67845**

# 800' FSL, 2100' FEL



**DIAGRAM NOT TO SCALE**



## EQUITABLE RESOURCES

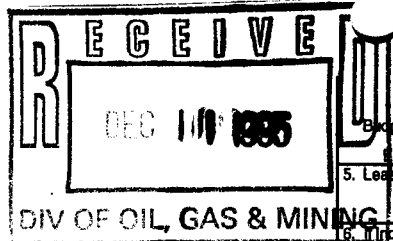
## BALCRON OIL DIVISION

**1601 Lewis Avenue**

**P.O. Box 21017**

**Billings, MT 59104-1017**

**(406) 259-7860**



FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993  
5. Lease Designation and Serial No.  
U-67845  
6. Indian, Allottee or Tribe Name

### SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.  
Use "APPLICATION FOR PERMIT --" for such proposals

#### SUBMIT IN TRIPLICATE

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

EQUITABLE RESOURCES ENERGY COMPANY, BALCRON OIL DIVISION

3. Address and Telephone No.

1601 Lewis Avenue; Billings, MT 59102 (406) 259-7860

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

SURFACE: SW SE Section 25, T8S, R17E  
TD: 800' FWL & 2100' FEL

n/a

7. If Unit or CA, Agreement Designation

n/a

8. Well Name and No.

Balcron Monument Federal #34-25

9. API Well No.

43-047-32670

10. Field and Pool, or Exploratory Area

Undesignated/Green River

11. County or Parish, State

Utah County, Utah

#### 12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment	<input type="checkbox"/> Change of Plans
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion	<input type="checkbox"/> New Construction
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Altering Casing	<input type="checkbox"/> Conversion to Injection
	<input checked="" type="checkbox"/> Other	<input type="checkbox"/> Dispose Water
	Onshore Order #7	

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Any water produced by this well will be held in a produced water tank and trucked to a commercial disposal facility. The primary facility to be used in the R.N. Industries produced water disposal facility located in Section 9, T2S, R2W in Duchesne County, Utah. A copy of the State-issued permit for that facility is on file at the Vernal Bureau of Land Management. If for some reason the operator is unable to use this primary facility, the produced water will be trucked to another State-approved disposal facility. If applicable, Operator has received approved Right-of-Way access to this well location from the Bureau of Land Management.

14. I hereby certify that the foregoing is true and correct

Signed Molly Conrad Title Operations Secretary

Date 12-6-95

(This space for Federal or State Office use)

Approved by

Title

Date

Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*See instruction on Reverse Side

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Form approved.  
Budget Bureau No. 1004-0137  
Expires August 31, 1985

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. TYPE OF WELL: OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> DRY <input type="checkbox"/> Other <input type="checkbox"/>		12. COUNTY OR PARISH Utah		13. STATE Utah	
b. TYPE OF COMPLETION: NEW WELL <input checked="" type="checkbox"/> WORK OVER <input type="checkbox"/> DEEP-EN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> DIFF. REVR. <input type="checkbox"/> Other <input type="checkbox"/>		14. PERMIT NO. 43-047-32670		DATE ISSUED 6-1-95	
2. NAME OF OPERATOR Equitable Resources Energy Company, Balcron Oil Division		15. DATE SPUDDED 10-4-95		16. DATE T.D. REACHED 10-14-95	
3. ADDRESS OF OPERATOR 1601 Lewis Avenue, Billings, MT 59102 (406) 259-7860		17. DATE COMPL. (Ready to prod.) 11-1-95		18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 5007.6' GL	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface 800' FSL & 2100' FSL At top prod. interval reported below FEL At total depth		19. ELEV. CASINGHEAD n/a		20. TOTAL DEPTH, MD & TVD 6175'	
5. LEASE DESIGNATION AND SERIAL NO. U-67845		21. PLUG, BACK T.D., MD & TVD 6C55' KB		22. IF MULTIPLE COMPL., HOW MANY* n/a	
6. IF INDIAN, ALLOTTEE OR TRIBE NAME n/a		23. INTERVALS DRILLED BY Sfc - TD		24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 5257' - 5283' green River	
7. UNIT AGREEMENT NAME n/a		25. WAS DIRECTIONAL SURVEY MADE No		26. TYPE ELECTRIC AND OTHER LOGS RUN DLL/DSLT/DSNE/GR/CEL	
8. FARM OR LEASE NAME Balcron Monument Federal		27. WAS WELL CORED No		28. CASING RECORD (Report all strings set in well)	
9. WELL NO. #34-25		31. PERFORATION RECORD (Interval, size and number) 5257' - 5268' (4 SPF) 5271' - 5283' (4 SPF)		32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC. DEPTH INTERVAL (MD) 5257'-5283' AMOUNT AND KIND OF MATERIAL USED 4179 gallons 2% KCL water. Frac with 59,120# 20/40 & 87,240# 16/30 mesh sand w/57,876 gallons 2% KCL gelled water.	
10. FIELD AND POOL, OR WILDCAT Undesignated/Green River		33.* PRODUCTION DATE FIRST PRODUCTION 11-1-95 PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) 1-1/2" Insert Pump WELL STATUS (Producing or shut-in) Producing		34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) Used for fuel.	
11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA SW SE Section 25, T8S, R17E		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
12. COUNTY OR PARISH Utah		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
13. STATE Utah		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
14. PERMIT NO. 43-047-32670		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
DATE ISSUED 6-1-95		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
15. DATE SPUDDED 10-4-95		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
16. DATE T.D. REACHED 10-14-95		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
17. DATE COMPL. (Ready to prod.) 11-1-95		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 5007.6' GL		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
19. ELEV. CASINGHEAD n/a		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
20. TOTAL DEPTH, MD & TVD 6175'		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
21. PLUG, BACK T.D., MD & TVD 6C55' KB		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
22. IF MULTIPLE COMPL., HOW MANY* n/a		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
23. INTERVALS DRILLED BY Sfc - TD		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 5257' - 5283' green River		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
25. WAS DIRECTIONAL SURVEY MADE No		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
26. TYPE ELECTRIC AND OTHER LOGS RUN DLL/DSLT/DSNE/GR/CEL		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
27. WAS WELL CORED No		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
28. CASING RECORD (Report all strings set in well)		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
29. LINER RECORD		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
30. TUBING RECORD		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
31. PERFORATION RECORD (Interval, size and number)		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
33.* PRODUCTION		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
35. LIST OF ATTACHMENTS		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records		35. LIST OF ATTACHMENTS n/a		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	

\*(See Instructions and Spaces for Additional Data on Reverse Side)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

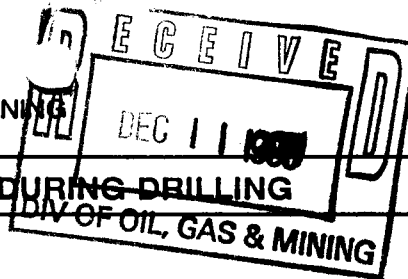
Form approved.  
Budget Bureau No. 1004-0137  
Expires August 31, 1985

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. TYPE OF WELL:		OIL WELL <input checked="" type="checkbox"/>	GAS WELL <input type="checkbox"/>	DRY <input type="checkbox"/>	14. PERMIT NO.		DATE ISSUED		12. COUNTY OR PARISH		13. STATE	
b. TYPE OF COMPLETION:		NEW WELL <input checked="" type="checkbox"/>	WORK OVER <input type="checkbox"/>	DEEP-EN <input type="checkbox"/>	PLUG BACK <input type="checkbox"/>	DIFF. RENVR. <input type="checkbox"/>	Other		Uintah		Utah	
2. NAME OF OPERATOR Equitable Resources Energy Company, Balcron Oil Division												
3. ADDRESS OF OPERATOR 1601 Lewis Avenue, Billings, MT 59102 (406) 259-7860												
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface 800' FSL & 2100' FSL At top prod. interval reported below FEL At total depth												
5. LEASE DESIGNATION AND SERIAL NO. U-67845												
6. IF INDIAN, ALLOTTEE OR TRIBE NAME n/a												
7. UNIT AGREEMENT NAME n/a												
8. FARM OR LEASE NAME Balcron Monument Federal												
9. WELL NO. #34-25												
10. FIELD AND POOL, OR WILDCAT Undesignated/Green River												
11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA SW SE Section 25, T8S, R17E												
15. DATE SPUDDED 10-4-95												
16. DATE T.D. REACHED 10-14-95												
17. DATE COMPL. (Ready to prod.) 11-1-95												
18. ELEVATIONS (DF, RKB, RT, OR, ETC.)* 5007.6' GL												
19. ELEV. CASINGHEAD n/a												
20. TOTAL DEPTH, MD & TVD 6175'												
21. PLUG, BACK T.D., MD & TVD 6C55' KB												
22. IF MULTIPLE COMPL., HOW MANY* n/a												
23. INTERVALS DRILLED BY ROTARY TOOLS Sfc - TD												
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 5257' - 5283' green River												
25. WAS DIRECTIONAL SURVEY MADE No												
26. TYPE ELECTRIC AND OTHER LOGS RUN DL/DSL/DSNT/GR/CBL MUD LOG 10-12-95												
27. WAS WELL CORRED No												
28. CASING RECORD (Report all strings set in well)												
CASING SIZE		WEIGHT, LB./FT.		DEPTH SET (MD)		HOLE SIZE		CEMENTING RECORD		AMOUNT PULLED		
8-5/8"		24#		299'		12- 1/4"		190 sxs Class "G" w/additives		None		
5-1/2"		15.5#		6108' KB		7-7/8"		220 sxs Super "G" w/additives		None		
								395 sxs 50-50 POZ w/additives				
29. LINER RECORD												
SIZE		TOP (MD)		BOTTOM (MD)		SACKS CEMENT*		SCREEN (MD)		TUBING RECORD		
n/a										SIZE 2-7/8"		
										DEPTH SET (MD) 5338.40'		
										PACKER SET (MD) n/a		
31. PERFORATION RECORD (Interval, size and number)												
5257' - 5268' (4 SPF) 5271' - 5283' (4 SPF)												
32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.												
DEPTH INTERVAL (MD)						AMOUNT AND KIND OF MATERIAL USED						
5257'-5283'						4179 gallons 2% KCL water.						
						Frac with 59,120# 20/40 & 87,240#						
						16/30 mesh sand w/57,876 gallons						
						2% KCL gelled water.						
33. PRODUCTION												
DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)						WELL STATUS (Producing or shut-in)				
11-1-95		1-1/2" Insert Pump						Producing				
DATE OF TEST		HOURS TESTED		CHOKE SIZE		PROD'N. FOR TEST PERIOD		OIL—BBL.		GAS—MCF.		
11-26-95		24		n/a				70.17		N.M.		
FLOW. TUBING PRESS.		CASING PRESSURE		CALCULATED 24-HOUR RATE		OIL—BBL.		GAS—MCF.		WATER—BBL.		
n/a		n/a				70.17		N.M.		2.27		
										OIL GRAVITY-API (CORR.)		
										34		
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)										TEST WITNESSED BY		
Used for fuel.										Dale Griffin		
35. LIST OF ATTACHMENTS n/a												
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records												
SIGNED <u>Molly Conrad</u>				TITLE <u>Operations Secretary</u>				DATE <u>12-6-95</u>				

\*(See Instructions and Spaces for Additional Data on Reverse Side)

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):				38. GEOLOGIC MARKERS			
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	MEAS. DEPTH	TOP	TRUE VERT. DEPTH
			No DST's run.	Green River Horsebench Sand 2nd Garden Gulch Yellow Marker Douglas Creek 2nd Douglas Creek Green Marker Carbonate Marker	1708' 2651' 4178' 4788' 4946' 5181' 5406' 5790'		1708' 2651' 4178' 4788' 4946' 5181' 5406' 5790'

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING

## REPORT OF WATER ENCOUNTERED DURING DRILLING

1. Well name and number: Balcron Monument Federal #34-25API number: 43-C47-326702. Well Location: QQ S4SE Section 25 Township 8S Range 17E County Uintah3. Well operator: Equitable Resources Energy Company, Balcron Oil CompanyAddress: 1601 Lewis AvenueBillings, MT 59102Phone: (406) 259-78604. Drilling contractor: Union DrillingAddress: Drawer 40Buckhamton, WY 26201Phone: (304) 472-4610

5. Water encountered (attach additional pages as needed):

DEPTH		VOLUME (FLOW RATE OR HEAD)	QUALITY (FRESH OR SALTY)
FROM	TO		
3000'	3200'	10 to 15 barrels per minute	Not tested.

6. Formation tops: Please see completion report.

If an analysis has been made of the water encountered, please attach a copy of the report to this form.

I hereby certify that this report is true and complete to the best of my knowledge.

Date: 12-6-95Name & Signature: Molly ConradMolly ConradTitle: Operations Secretary



**EQUITABLE RESOURCES  
ENERGY COMPANY**

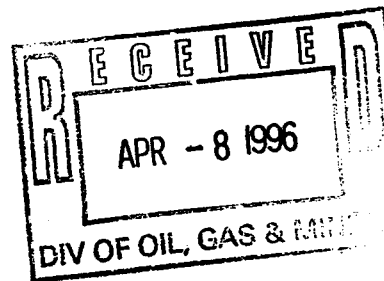
**BALCRON OIL DIVISION**

1601 Lewis Avenue  
Billings, MT 59102

Office: (406) 259-7860  
FAX: (406) 245-1365 ☐  
FAX: (406) 245-1361 ☒

March 22, 1996

Utah Division of Oil, Gas and Mining  
355 West North Temple  
Salt Lake City, UT 84180



Gentlemen:

Effective April 1, 1996, our name will change from Equitable Resources Energy Company, Balcron Oil Division to Equitable Resources Energy Company. Attached is a sundry notice reflecting that change. To simplify paperwork, I have done one sundry notice with copies for each of the wells. To this letter I have attached a list of our wells for your ease in filing the sundry notices in the well files. This should be sufficient for your purposes.

I have the listings on a spreadsheet so if it would be easier for you to have them sorted differently (for example, the Montana Board of Oil and Gas prefers them sorted by API number), please give me a call at (406) 259-7860, extension 240 and I would be glad to provide a list to your specifications.

This change affects only our company name. The physical locations of our offices and the personnel remain the same. We will be changing our well signs and ask for your patience and cooperation as this will be done as soon as possible but may take some time since we do have so many properties at which to make the change.

If you have any questions, please do not hesitate to give me a call.

Sincerely,

*Bobbie Schuman*  
Bobbie Schuman  
Regulatory and  
Environmental Specialist

/hs

Enclosures

ST OF UTAH  
DIVISION OF OIL, GAS AND MINING

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.  
Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

1. Type of Well: OIL ☐ GAS ☐ OTHER: See attached listing

2. Name of Operator:  
Equitable Resources Energy Company, Balcron Oil Division

3. Address and Telephone Number:  
1601 Lewis Avenue Avenue; Billings, MT 59102 (406) 259-7860

4. Location of Well  
Footages: See attached listing  
OO, Sec., T., R., M.:

5. Lease Designation and Serial Number:  
See attached listing

6. If Indian, Allottee or Tribe Name:  
n/a

7. Unit Agreement Name:  
See attached listing

8. Well Name and Number:  
See attached listing

9. API Well Number:  
See attached listing

10. Field and Pool, or Wildcat:  
See attached listing

County: See attached list  
State: UTAH

### 11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

#### NOTICE OF INTENT (Submit in Duplicate)

- |  |   |
|--|---|
| <input type="checkbox"/> Abandon                   | <input type="checkbox"/> New Construction     |
| <input type="checkbox"/> Repair Casing             | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans           | <input type="checkbox"/> Recomplete           |
| <input type="checkbox"/> Convert to Injection      | <input type="checkbox"/> Reperforate          |
| <input type="checkbox"/> Fracture Treat or Acidize | <input type="checkbox"/> Vent or Flare        |
| <input type="checkbox"/> Multiple Completion       | <input type="checkbox"/> Water Shut-Off       |
| <input type="checkbox"/> Other _____               |   |

Approximate date work will start \_\_\_\_\_

#### SUBSEQUENT REPORT (Submit Original Form Only)

- |   |   |
|---|---|
| <input type="checkbox"/> Abandon                                      | <input type="checkbox"/> New Construction     |
| <input type="checkbox"/> Repair Casing                                | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans                              | <input type="checkbox"/> Reperforate          |
| <input type="checkbox"/> Convert to Injection                         | <input type="checkbox"/> Vent or Flare        |
| <input type="checkbox"/> Fracture Treat or Acidize                    | <input type="checkbox"/> Water Shut-Off       |
| <input checked="" type="checkbox"/> Other <u>Operator name change</u> |   |

Date of work completion \_\_\_\_\_

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

\* Must be accompanied by a cement verification report.

### 12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Effective April 1, 1996, operator will change its name from Equitable Resources Energy Company, Balcron Oil Division TO: Equitable Resources Energy Company. Physical location of the operator remains as: 1601 Lewis Avenue; Billings, MT 59102 (406) 259-7860, FAX: (406) 145-1361. This is to report the operator name change only. It affects the wells on the attached listing.

APR - 8 1996

13.

Name & Signature:

Bobbie Schuman  
Bobbie Schuman

Regulatory and  
Title: Environmental Specialist Date: March 27, 1996

(This space for State use only)

Division of Oil, Gas and Mining  
**OPERATOR CHANGE WORKSHEET**

Attach all documentation received by the division regarding this change.  
 Initial each listed item when completed. Write N/A if item is not applicable.

- ☐ Change of Operator (well sold)  
☐ Designation of Operator

☐ Designation of Agent

~~Operator Name Change Only~~

Routing:

1	LEP 7-SJ
2	DE 58-FILE
3	VLD (GIL)
4	RJE
5	LEP
6	FILM

The operator of the well(s) listed below has changed (EFFECTIVE DATE: 4-1-96)

TO (new operator)	<u>EQUITABLE RESOURCES ENERGY COEROM</u> (former operator)	<u>EQUITABLE RESOURCES ENERGY CO</u>
(address)	<u>1601 LEWIS AVE</u>	(address) <u>BALCRON OIL DIVISION</u>
	<u>BILLINGS MT 59102-4126</u>	<u>1601 LEWIS AVE</u>
		<u>BILLINGS MT 59102-4126</u>
	phone (406) <u>259-7860</u>	phone (406) <u>259-7860</u>
	account no. <u>N9890</u>	account no. <u>N9890</u>

Well(s) (attach additional page if needed):

Name: <b>**SEE ATTACHED**</b>	API: <u>D47-32670</u>	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____ Twp _____ Rng _____	Lease Type: _____

**OPERATOR CHANGE DOCUMENTATION**

- Yec 1. (Rule R615-8-10) Sundry or other legal documentation has been received from former operator (Attach to this form). Rec'd 4-4-96 & 4-8-96
- N/A 2. (Rule R615-8-10) Sundry or other legal documentation has been received from new operator (Attach to this form).
- N/A 3. The Department of Commerce has been contacted if the new operator above is not currently operating any wells in Utah. Is company registered with the state? (yes/no) \_\_\_\_\_ If yes, show company file number: \_\_\_\_\_
- \* 4. (For Indian and Federal Wells ONLY) The BLM has been contacted regarding this change (attach Telephone Documentation Form to this report). Make note of BLM status in comments section of this form. Management review of Federal and Indian well operator changes should take place prior to completion of steps 5 through 9 below.
- Yec 5. Changes have been entered in the Oil and Gas Information System (Wang/IBM) ~~for each well listed above.~~ (4-10-96)
- Yec 6. Cardex file has been updated for each well listed above. (4-11-96)
- Yec 7. Well file labels have been updated for each well listed above. (4-11-96)
- Yec 8. Changes have been included on the monthly "Operator, Address, and Account Changes" memo for distribution to State Lands and the Tax Commission. (4-10-96)
- Yec 9. A folder has been set up for the Operator Change file, and a copy of this page has been placed there for reference during routing and processing of the original documents.

### ENTITY REVIEW

- Yes 1. (Rule R615-8-7) Entity assignments have been reviewed for all wells listed above. Were entity changes made? (yes/no) no (If entity assignments were changed, attach copies of Form 6, Entity Action Form).
- N/A 2. State Lands and the Tax Commission have been notified through normal procedures of entity changes.

### BOND VERIFICATION (Fee wells only)

# 5578314 (\$80,000) Scheco Ins. Co. (Bond Rider In Progress)

- Yes 1. (Rule R615-3-1) The new operator of any fee lease well listed above has furnished a proper bond.
2. A copy of this form has been placed in the new and former operators' bond files.
- N/A 3. The former operator has requested a release of liability from their bond (yes/no)   . Today's date            19  . If yes, division response was made by letter dated            19  .

### LEASE INTEREST OWNER NOTIFICATION RESPONSIBILITY

- N/A 1. (Rule R615-2-10) The former operator/lessee of any fee lease well listed above has been notified by letter dated            19  , of their responsibility to notify any person with an interest in such lease of the change of operator. Documentation of such notification has been requested.
- 4/22/96
- OTS 2. Copies of documents have been sent to State Lands for changes involving State leases.  
Sent to Ed Bonner - Trust Lands

### FILMING

- Yes 1. All attachments to this form have been microfilmed. Date: May 20 1996.  
(Refilmed 8-27-96)

### FILING

1. Copies of all attachments to this form have been filed in each well file.
2. The original of this form and the original attachments have been filed in the Operator Change file.

### COMMENTS

9/6/04/0 Blm/BIA "Formal approval not necessary".

**STATE OF UTAH**  
**DIVISION OF OIL, GAS AND MINING**  
 355 West North Temple, 3<sup>rd</sup> Floor, Suite 350, Salt Lake City, UT 84180-1203

Page 9 of 11

## MONTHLY OIL AND GAS PRODUCTION REPORT

OPERATOR NAME AND ADDRESS:

BALCRON OIL DIVISION  
 EQUITABLE RESOURCES ENERGY  
 1601 LEWIS AVE  
 BILLINGS MT 59102-4126

UTAH ACCOUNT NUMBER: N9890REPORT PERIOD (MONTH/YEAR): 3 / 96AMENDED REPORT ☐ (Highlight Changes)

Well Name API Number      Entity      Location	Producing Zone	Well Status	Days Oper	Production Volumes		
				OIL(BBL)	GAS(MCF)	WATER(BBL)
✓ BALCRON FEDERAL 42-19Y 4304732616 11756 09S 18E 19	GRRV					
✓ BALCRON FEDERAL 12-20Y 4304732617 11758 09S 18E 20	GRRV					
✓ BALCRON FEDERAL 32-19Y 4304732615 11771 09S 18E 19	GRRV					
✓ BALCRON MONUMENT FEDERAL 24-25 4304732669 11825 08S 17E 25	GRRV					
✓ BALCRON MONUMENT FEDERAL 34-25 4304732670 11831 08S 17E 25	GRRV					
✓ BALCRON MONUMENT FEDERAL 22-22-8-17Y 4301331538 11842 08S 17E 22	GRRV					
✓ BALCRON MONUMENT FEDERAL 11-22-8-17Y 4301331539 11845 08S 17E 22	GRRV					
✓ BALCRON MONUMENT FEDERAL 11-20-9-18Y 4304732712 11846 09S 18E 20	GRRV					
✓ BALCRON MONUMENT FEDERAL 22-20-9-18Y 4304732711 11852 09S 18E 20	GRRV					
✓ BALCRON MONUMENT FEDERAL 14-3-9-17Y 4301331535 11857 09S 17E 3	GRRV					
✓ BALCRON MONUMENT FEDERAL 21-10-9-17Y 4301331537 11859 09S 17E 10	GRRV					
✓ BALCRON MONUMENT STATE 21-2-9-17 4304732703 11863 09S 17E 2	GRRV					
✓ BALCRON MONUMENT FEDERAL 12-10-9-17Y 4301331536 11867 09S 17E 10	GRRV					
<b>TOTALS</b>						

COMMENTS:

I hereby certify that this report is true and complete to the best of my knowledge.

Date: \_\_\_\_\_

Name and Signature: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

UTAH

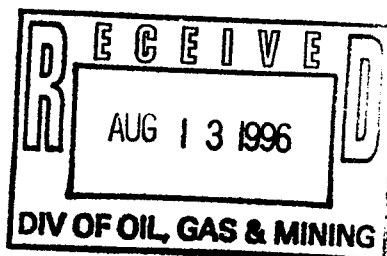
Balcron Monument Fed. #32-1J	Monument Butte	SW NE	1	9S	16E	Duchesne	UT	Oil	Green River	U-33992	43-013-31414	2143' FNL, 1987' FEL	Vernal	Jonah
Balcron Monument Fed. #32-25	Undesignated	SW NE	25	8S	17E	Uintah	UT	Oil	Green River	U-67845	43-047-32524	1980' FNL, 1980' FEL	Vernal	
Balcron Monument Fed. #33-11J	Monument Butte	NW SE	11	9S	16E	Duchesne	UT	Oil	Green River	U-096550	43-013-31451	1971' FSL, 2032' FEL	Vernal	Jonah
Balcron Monument Fed. #33-25	Undesignated	NW SE	25	8S	17E	Uintah	UT	Oil	Green River	U-67845	43-047-32525	2097' FSL, 2067' FEL	Vernal	
Balcron Monument Fed. #33-6	Monument Butte	NW SE	6	9S	17E	Duchesne	UT	WIW	Green River	U-020252-A	43-013-31361	1832' FSL, 1829' FEL	Vernal	Jonah
Balcron Monument Fed. #33-8	Monument Butte	NW SE	8	9S	17E	Duchesne	UT	Oil	Green River	UTU-74108	43-013-31427	1980' FSL, 1980' FEL	Vernal	Beluga
Balcron Monument Fed. #34-10J	Monument Butte	SW SE	10	9S	16E	Duchesne	UT	WIW	Green River	U-017985	43-013-31416	592' FSL, 1979' FEL	Vernal	Jonah
Balcron Monument Fed. #34-25	Undesignated	SW SE	25	8S	17E	Uintah	UT	PND	Green River	U-67845		800' FSL, 2100' FEL	Vernal	
Balcron Monument Fed. #34-7	Monument Butte	SW SE	7	9S	17E	Duchesne	UT	PND	Green River	UTU-72106	43-013-31426	810' FSL, 1736' FEL	Vernal	
Balcron Monument Fed. #41-12J	Monument Butte	NE NE	12	9S	16E	Duchesne	UT	Oil	Green River	U-44426		395' FNL, 476' FEL	Vernal	Jonah
Balcron Monument Fed. #41-14J	Monument Butte	NE NE	14	9S	16E	Duchesne	UT	WIW	Green River	U-096550	43-013-31408	363' FNL, 600' FEL	Vernal	Jonah
Balcron Monument Fed. #41-15	Monument Butte	NE NE	15	9S	16E	Duchesne	UT	WIW	Green River	U-017985	43-013-31367	460' FNL, 500' FEL	Vernal	Jonah
Balcron Monument Fed. #41-17	Monument Butte	NE NE	17	9S	17E	Duchesne	UT	Oil	Green River	UTU-72106	43-013-31466	660' FNL, 660' FEL	Vernal	Beluga
Balcron Monument Fed. #41-26	Monument Butte	NE NE	26	8S	17E	Uintah	UT	PND	Green River	U-67845	43-047-32456	660' FNL, 500' FEL	Vernal	
Balcron Monument Fed. #42-11J	Monument Butte	SE NE	11	9S	16E	Duchesne	UT	Oil	Green River	U-096550	43-013-30066	1992' FNL, 496' FEL	Vernal	Jonah
Balcron Monument Fed. #42-12J	Monument Butte	SE NE	12	9S	16E	Duchesne	UT	Oil	Green River	U-035521	43-013-31486	2550' FNL, 391' FEL	Vernal	Jonah
Balcron Monument Fed. #42-14J	Monument Butte	SE NE	14	9S	16E	Duchesne	UT	PND	Green River	U-096550	43-013-21491	1882' FNL, 773' FEL	Vernal	Jonah
Balcron Monument Fed. #42-17	Monument Butte	SE NE	17	9S	17E	Duchesne	UT	Oil	Green River	UTU-72106	43-013-31467	1800' FNL, 700' FEL	Vernal	Beluga
Balcron Monument Fed. #42-18	Monument Butte	SE NE	18	9S	17E	Duchesne	UT	PND	Green River	UTU-72106	43-013-31433	1800' FNL, 800' FEL	Vernal	
Balcron Monument Fed. #42-1J	Monument Butte	SE NE	1	9S	16E	Duchesne	UT	WIW	Green River	U-40652	43-013-31404	2087' FNL, 692' FEL	Vernal	Jonah
Balcron Monument Fed. #42-26	Undesignated	SE NE	26	8S	17E	Uintah	UT	PND	Green River	U-67845		2100' FNL, 660' FEL	Vernal	
Balcron Monument Fed. #43-11J	Monument Butte	SE NE	6	9S	17E	Duchesne	UT	WIW	Green River	U-020252-A	43-013-31364	1806' FNL, 921' FEL	Vernal	Jonah
Balcron Monument Fed. #43-26	Undesignated	NE SE	11	9S	16E	Duchesne	UT	WIW	Green River	U-096550	43-013-31002	2127' FSL, 693' FEL	Vernal	Jonah
Balcron Monument Fed. #43-7	Monument Butte	NE SE	26	8S	17E	Uintah	UT	PND	Green River	U-67845		1880' FSL, 379' FEL	Vernal	
Balcron Monument Fed. #44-1J	Monument Butte	NE SE	7	9S	17E	Duchesne	UT	Oil	Green River	UTU-72106	43-013-31432	1850' FSL, 850' FEL	Vernal	Beluga
Balcron Monument State #12-2	Undesignated	SE SE	1	9S	16E	Duchesne	UT	WIW	Green River	U-44426	43-013-31415	338' FSL, 859' FEL	Vernal	Jonah
Balcron Monument State #13-2	Undesignated	SW NW	2	9S	17E	Duchesne	UT	Oil	Green River	ML-45555	43-013-31481	1980' FNL, 660' FWL		
Balcron Monument State #14-2	Undesignated	NW SW	2	9S	17E	Duchesne	UT	Oil	Green River	ML-45555	43-013-31482	2210' FSL, 604' FWL		
Balcron Monument State #21-2-9-17	Undesignated	SW SW	2	9S	17E	Duchesne	UT	Oil	Green River	ML-45555	43-013-31425	513' FSL, 787' FWL		
Balcron Monument State #22-2	Undesignated	NE NW	2	9S	17E	Uintah	UT	Oil	Green River	ML-45555	43-047-32703	821' FNL, 2187' FWL		
Balcron Monument State #23-2	Undesignated	SE NW	2	9S	17E	Uintah	UT	Oil	Green River	ML-45555	43-047-32610	1980' FNL, 1980' FWL		
Balcron Monument State #24-2	Undesignated	NE SW	2	9S	17E	Uintah	UT	WSW	Green River	ML-45555	43-047-32613	1980' FSL, 1980' FWL		
Balcron Monument State #32-2	Undesignated	SE SW	2	9S	17E	Uintah	UT	Oil	Green River	ML-45555	43-047-32612	660' FSL, 1980' FWL		
Balcron Monument State #32-2	Undesignated	SW NE	2	9S	17E	Uintah	UT	PND	Green River	ML-45555	43-047-32609	1980' FNL, 1980' FEL		
Balcron Monument State #34-2	Undesignated	SW SE	2	9S	17E	Uintah	UT	PND	Green River	ML-45555	43-047-32611	800' FSL, 1980' FEL		



**EQUITABLE RESOURCES**  
**ENERGY COMPANY**

**WESTERN REGION**

1601 Lewis Avenue  
Billings, MT 59102



Office: (406) 259-7860  
FAX: (406) 245-1365 ☐  
FAX: (406) 245-1361 ☒

August 12, 1996

State of Utah  
Division of Oil, Gas and Mining  
1594 West North Temple  
Salt Lake City, UT 84114

Gentlemen:

We would like to take information on the following wells out of  
CONFIDENTIAL or tight hole status:

Monument Federal #13-25  
NW SW Section 25, T8S, R17E

Monument Federal #24-25  
SE SW Section 25, T8S, R17E

Monument Federal #34-25  
SW SE Section 25, T8S, R17E

If you have any questions, please do not hesitate to give me a call at  
(406) 259-7860, extension 240.

Sincerely,

Bobbie Schuman  
Regulatory and  
Environmental Specialist

/hs

cc: Bureau of Land Management (Vernal, UT)

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING

## SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.  
Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

1. Type of Well: OIL ☒ GAS ☐ OTHER:

2. Name of Operator:

Inland Production Company

3. Address and Telephone Number:

475 - 17th Street, Suite 1500, Denver, CO 80202

4. Location of Well

Footages: See Attached Exhibit

OO, Sec., T., R., M.:

5. Lease Designation and Serial Number:

See Attached

6. If Indian, Allottee or Tribe Name:

n/a

7. Unit Agreement Name:

See Attached

8. Well Name and Number:

See Attached

9. API Well Number:

See Attached

10. Field and Pool, or Wildcat:

See Attached

County:

State:

### 11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

#### NOTICE OF INTENT (Submit in Duplicate)

- |   |   |
|---|---|
| <input type="checkbox"/> Abandon                                    | <input type="checkbox"/> New Construction     |
| <input type="checkbox"/> Repair Casing                              | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans                            | <input type="checkbox"/> Recomplete           |
| <input type="checkbox"/> Convert to Injection                       | <input type="checkbox"/> Reperforate          |
| <input type="checkbox"/> Fracture Treat or Acidize                  | <input type="checkbox"/> Vent or Flare        |
| <input type="checkbox"/> Multiple Completion                        | <input type="checkbox"/> Water Shut-Off       |
| <input checked="" type="checkbox"/> Other <u>Change of Operator</u> |   |

Approximate date work will start \_\_\_\_\_

#### SUBSEQUENT REPORT (Submit Original Form Only)

- |   |   |
|---|---|
| <input type="checkbox"/> Abandon                                    | <input type="checkbox"/> New Construction     |
| <input type="checkbox"/> Repair Casing                              | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans                            | <input type="checkbox"/> Reperforate          |
| <input type="checkbox"/> Convert to Injection                       | <input type="checkbox"/> Vent or Flare        |
| <input type="checkbox"/> Fracture Treat or Acidize                  | <input type="checkbox"/> Water Shut-Off       |
| <input checked="" type="checkbox"/> Other <u>Change of Operator</u> |   |

Date of work completion 9-30-97

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

\* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Effective September 30, 1997, Inland Production Company will take over operations of the wells on the attached list. The previous operator was :

Equitable Resources Energy Company  
1601 Lewis Avenue  
Billings, MT 59102

Effective September 30, 1997, Inland Production Company is responsible under the terms and conditions of the leases for operations conducted on the leased lands or a portion thereof under State of Utah Statewide Bond No. 4471291.

OCT 10 1997

13.

Name & Signature: Chris A. Potter

**CHRIS A. POTTER, ATTORNEY-IN-FACT**

Date: 9/30/97

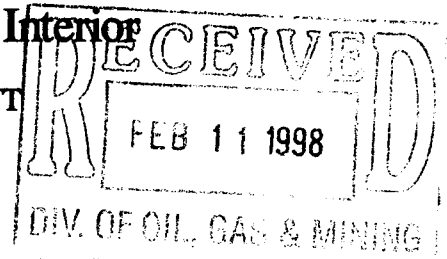
This space for State use only)



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office  
P.O. Box 45155  
Salt Lake City, UT 84145-0155



IN REPLY REFER TO  
UT-931

February 10, 1998

Inland Production Company  
475 17th Street, Suite 1500  
Denver, Colorado 80202

Re: Humpback (Green River) Unit  
Uintah County, Utah

Gentlemen:

On February 10, 1998, we received an indenture dated November 17, 1997, whereby Equitable Resources Energy Company resigned as Unit Operator and Inland Production Company was designated as Successor Unit Operator for the Humpback (Green River) Unit, Uintah County, Utah.

This indenture was executed by all required parties and the signatory parties have complied with Sections 5 and 6 of the unit agreement. The instrument is hereby approved effective February 10, 1998. In approving this designation, the Authorized Officer neither warrants nor certifies that the designated party has obtained all required approval that would entitle it to conduct operations under Humpback (Green River) Unit Agreement.

Your statewide (Utah) oil and gas bond No. 0056 will be used to cover all operations within the Humpback (Green River) Unit.

It is requested that you notify all interested parties of the change in unit operator. Copies of the approved instruments are being distributed to the appropriate federal offices, with one copy returned herewith.

Sincerely,

/s/ Robert A. Henricks

Robert A. Henricks  
Chief, Branch of Fluid Minerals

Enclosure

bcc: District Manager - Vernal (w/enclosure)  
~~Division of Oil, Gas & Mining~~  
Minerals Adjudication Group U-932  
File - Humpback (Green River) Unit (w/enclosure)  
MMS - Data Management Division  
Agr. Sec. Chron/Fluid Chron  
U-931:TAThompson:tt:2/10/98

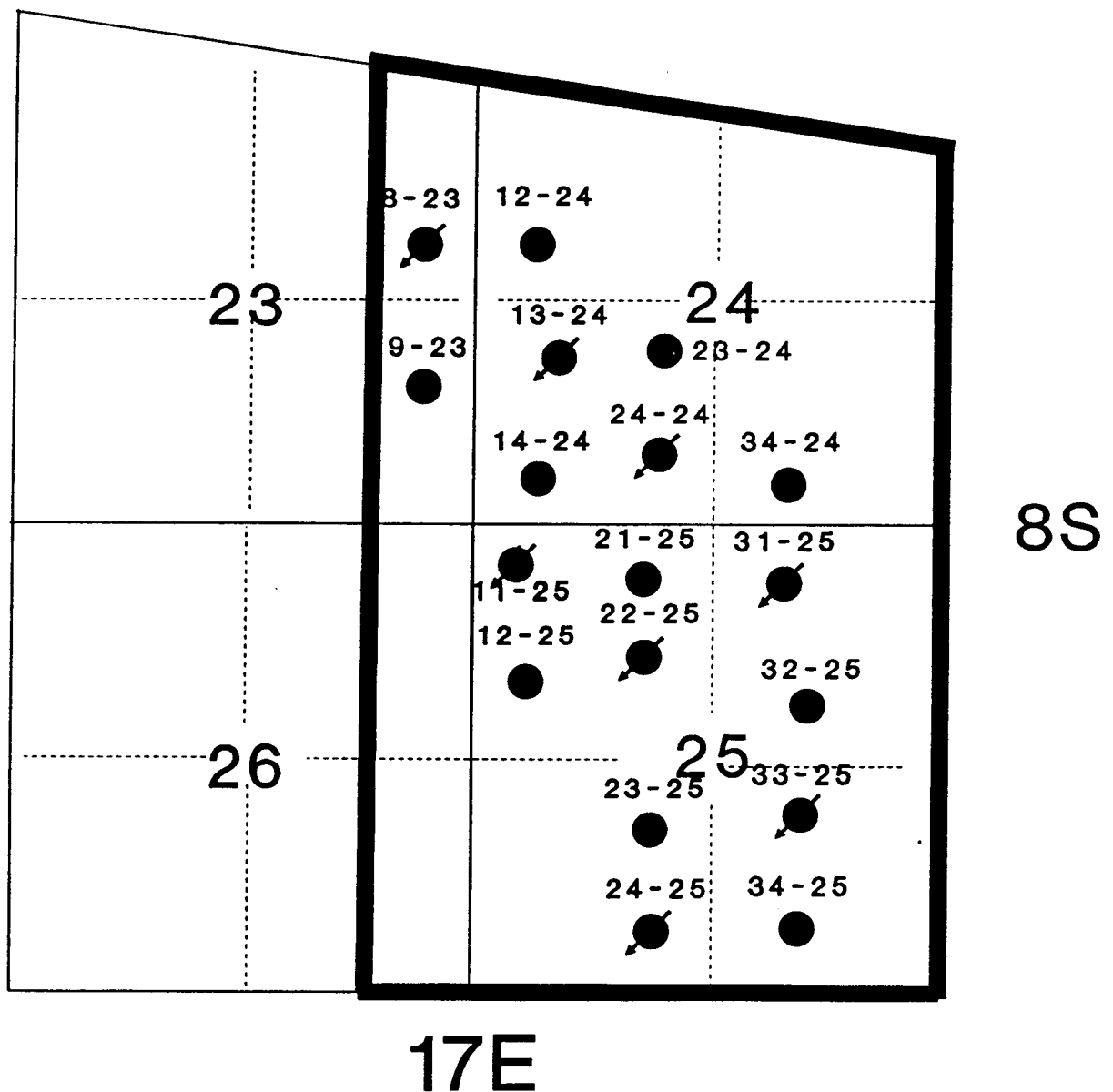
Well Status Report  
Utah State Office  
Bureau of Land Management

Lease	Api Number	Well Name	QTR	Section	Township	Range	Well Status	Operator
** Inspection Item: UTU76189X								
UTU67845	4304732455	11-25	NWNW	25	T	8S	R17E	OSI
UTU45431	4304732713	12-24	SNNW	24	T	8S	R17E	POW
UTU67845	4304732526	12-25	SNNW	25	T	8S	R17E	POW
UTU45431	4304732645	14-24	SWSW	24	T	8S	R17E	POW
UTU67845	4304732528	21-25	NENW	25	T	8S	R17E	OSI
UTU67845	4304732008	22-25 FEDERAL	SENW	25	T	8S	R17E	POW
UTU67845	4304732529	23-25	NESW	25	T	8S	R17E	POW
UTU45431	4304732646	24-24	SESW	24	T	8S	R17E	POW
UTU67845	4304732669	24-25	SESW	25	T	8S	R17E	POW
UTU67845	4304732530	31-25 FEDERAL	NWNE	25	T	8S	R17E	POW
UTU67845	4304732524	32-25 MONUMENT BUTTE	SWNE	25	T	8S	R17E	POW
UTU67845	4304732525	33-25	NWSE	25	T	8S	R17E	POW
UTU45431	4304732506	34-24	SWSE	24	T	8S	R17E	POW
UTU67845	4304732670	34-25	SWSE	25	T	8S	R17E	POW
UTU45431	4304731543	9-23 PARIETTE DRAW	NESE	23	T	8S	R17E	POW
UTU45431	4304732676	PARIETTE DRAW 8-23	SENE	23	T	8S	R17E	POW
UTU45431	4304732546	PARIETTE FED 13-24	NWSW	24	T	8S	R17E	POW
UTU45431	4304732710	PARIETTE FED 23-24	NESW	24	T	8S	R17E	POW

# HUMPBACK (GREEN RIVER) UNIT

## Uintah County, Utah

EFFECTIVE: JANUARY 1, 1997



UNIT OUTLINE (UTU76189X)

1,468.47 ACRES

SECONDARY  
ALLOCATION  
FEDERAL 100.00%



# EQUITABLE RESOURCES ENERGY COMPANY

## WESTERN REGION

(406) 259-7860 Telephone

(406) 245-1361 Fax

December 10, 1997

Lisha  
State of Utah  
Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, UT 84114-5801

Dear Lisha:

RE: Equitable Sale of Utah Properties

Effective September 30, 1997, Equitable Resources Energy Company sold all of its Utah properties to Inland Production Company.

Please feel free to contact me if you require additional information.

Sincerely,

Molly Conrad  
Agent for Equitable Resources  
Energy Company

/mc



Crazy Mountain Oil & Gas Services  
P.O. Box 577  
Laurel, MT 59044  
(406) 628-4164  
(406) 628-4165

TO: Lisha  
St of Utah.

FROM. Molly Conrad  
Crazy Mountain Oil & Gas Services  
(406) 628-4164

Pages Attached - Including Cover Sheet 2.

NOTE: Here is the letter you requested.  
Call if you need anything  
further.

## INLAND

Inland Resources Change of Operator							
WELL NAME	LOCATION	COUNTY	ST	FIELD NAME	API NUMBER	LEASE NO.	AGEEMENT
✓ HENDEL FEDERAL #1-17	NENW 179S 19E	UINTA	UT	PARIETTE BENCH	43-047-30059-00	UTU017991	
✓ HENDEL FEDERAL #3-17	SWNW 179S 19E	UINTA	UT	PARIETTE BENCH	43-047-30074-00	UTU017991	
PARIETTE BENCH #4 (SWD)	SWSE 7 9S 19E	UINTA	UT	PARIETTE BENCH	43-047-15681-00	UTU017992	8910069630
✓ PARIETTE BENCH FEDER #14-5	SWSW 5 9S 19E	UINTA	UT	PARIETTE BENCH	43-047-31123-00	UTU017992	
✓ PARIETTE BENCH FEDER #41-7	NENE 7 9S 19E	UINTA	UT	PARIETTE BENCH	43-047-31584-00		8910069630
✓ PARIETTE BENCH FEDER #32-6	SWNE 6 9S 19E	UINTA	UT	PARIETTE BENCH	43-047-31554-00	UTU50385	
✓ PARIETTE BENCH FEDER #43-6	NESE 6 9S 19E	UINTA	UT	PARIETTE BENCH	43-047-31616-00	UTU017992	
✓ PARIETTE BENCH UNIT #2	SWNE 7 9S 19E	UINTA	UT	PARIETTE BENCH	43-047-15680-00		8910069630
✓ FEDERAL #22-25	SE NW 258S 17E	UINTAH	UT	UNDESIGNATED (H)	43-047-32008-00	UTU67845	UTU76189X
✓ MONUMENT BUTTE FED #24-25	SE SW 258S 17E	UINTAH	UT	UNDESIGNATED (H)	43-047-32669-00	UTU67845	UTU76189X
✓ MONUMENT BUTTE FED #34-25	SW SE 258S 17E	UINTAH	UT	UNDESIGNATED (H)	43-047-32670-00	UTU67845	UTU76189X
✓ MONUMENT BUTTE FED #21-25	NENW 258S 17E	DUCHESNE	UT	UNDESIGNATED (H)	43-047-32528-00	UTU67845	UTU76189X
✓ MONUMENT BUTTE FED #12-25	SWNW 258S 17E	UINTAH	UT	UNDESIGNATED (H)	43-047-32526-00	UTU67845	UTU76189X
✓ MONUMENT BUTTE FED #23-25	NESW 258S 17E	UINTAH	UT	UNDESIGNATED (H)	43-047-32529-00	UTU67845	UTU76189X
✓ MONUMENT BUTTE FED #31-25	NWNE 258S 17E	UINTAH	UT	UNDESIGNATED (H)	43-047-32530-00	UTU67845	UTU76189X
✓ MONUMENT BUTTE FED #32-25	SWNE 258S 17E	UINTAH	UT	UNDESIGNATED (H)	43-047-32524-00	UTU67845	UTU76189X
✓ MONUMENT BUTTE FED #33-25	NWSE 258S 17E	UINTAH	UT	UNDESIGNATED (H)	43-047-32525-00	UTU67845	UTU76189X
✓ MONUMENT FEDERAL #11-25	NWNW 258S 17E	UINTAH	UT	UNDESIGNATED (H)	43-047-32455-00	UTU67845	UTU76189X
✓ PARIETTE DRAW FED. #8-23	SE NE 238S 17E	UINTAH	UT	UNDESIGNATED (H)	43-047-32676-00	UTU45431	UTU76189X
✓ PARIETTE FEDERAL #9-23	NESE 238S 17E	UINTAH	UT	UNDESIGNATED (H)	43-047-31543-00	UTU45431	UTU76189X
✓ PARIETTE FEDERAL #12-24	SWNW 248S 17E	UINTAH	UT	UNDESIGNATED (H)	43-047-32713-00	UTU45431	UTU76189X
✓ PARIETTE FEDERAL #13-24	NWSW 248S 17E	UINTAH	UT	UNDESIGNATED (H)	43-047-32546-00	UTU45431	UTU76189X
✓ PARIETTE FEDERAL #14-24	SWSW 248S 17E	UINTAH	UT	UNDESIGNATED (H)	43-047-32645-00	UTU45431	UTU76189X
✓ PARIETTE FEDERAL #23-24-8-17	NE SW 248S 17E	UINTAH	UT	MONUMENT BUTTE (H)	43-047-32710-00	UTU45431	UTU76189X
✓ PARIETTE FEDERAL #24-24	SESW 248S 17E	UINTAH	UT	UNDESIGNATED (H)	43-047-32646-00	UTU45431	UTU76189X
✓ PARIETTE FEDERAL #34-24	SWSE 248S R17E	UINTAH	UT	UNDESIGNATED (H)	43-047-32506-00	UTU45431	UTU76189X

## OPERATOR CHANGE WORKSHEET

Attach all documentation received by the division regarding this change.

Initial each listed item when completed. Write N/A if item is not applicable.

1- <del>ABC</del>	6- <del>ABC</del>
2- <del>CHH</del>	7-KAS
3-DTS	8-SI
4-VLD	9-FILE
5-JRB	

☒ Change of Operator (well sold)☐ Designation of Agent☐ Designation of Operator☐ Operator Name Change OnlyThe operator of the well(s) listed below has changed, effective: 9-30-97TO: (new operator) INLAND PRODUCTION COMPANY  
(address) PO BOX 1446  
ROOSEVELT UT 84066Phone: (435) 722-5103Account no. N5160FROM: (old operator)  
(address)EQUITABLE RESOURCES ENERGY  
PO BOX 577LAUREL MT 59044C/O CRAZY MTN O&G SVS'SPhone: (406) 628-4164Account no. N9890

WELL(S) attach additional page if needed:

## HUMPBAC (GREEN RIVER) UNIT

Name: <b>**SEE ATTACHED**</b>	API: <u>43-047-321670</u>	Entity: _____	S _____	T _____	R _____	Lease: _____
Name: _____	API: _____	Entity: _____	S _____	T _____	R _____	Lease: _____
Name: _____	API: _____	Entity: _____	S _____	T _____	R _____	Lease: _____
Name: _____	API: _____	Entity: _____	S _____	T _____	R _____	Lease: _____
Name: _____	API: _____	Entity: _____	S _____	T _____	R _____	Lease: _____
Name: _____	API: _____	Entity: _____	S _____	T _____	R _____	Lease: _____
Name: _____	API: _____	Entity: _____	S _____	T _____	R _____	Lease: _____

## OPERATOR CHANGE DOCUMENTATION

- Lec 1. (r649-8-10) Sundry or other legal documentation has been received from the **FORMER** operator (attach to this form). *(rec'd 12-10-97)*
- Lec 2. (r649-8-10) Sundry or other legal documentation has been received from the **NEW** operator (Attach to this form). *(rec'd 10-13-97)*
- N/A 3. The Department of Commerce has been contacted if the new operator above is not currently operating any wells in Utah. Is the company registered with the state? (yes/no) \_\_\_\_ If yes, show company file number: \_\_\_\_\_
- Lec 4. **FOR INDIAN AND FEDERAL WELLS ONLY.** The BLM has been contacted regarding this change. Make note of BLM status in comments section of this form. BLM approval of **Federal** and **Indian** well operator changes should ordinarily take place prior to the division's approval, and before the completion of steps 5 through 9 below.
- Lec 5. Changes have been entered in the Oil and Gas Information System (3270) for each well listed above. *(2-13-98)*
- Lec 6. Cardex file has been updated for each well listed above. *(2-18-98)*
- Lec 7. Well file labels have been updated for each well listed above. *(2-18-98)*
- Lec 8. Changes have been included on the monthly "Operator, Address, and Account Changes" memo for distribution to Trust Lands, Sovereign Lands, UGS, Tax Commission, etc. *(2-13-98)*
- Lec 9. A folder has been set up for the **Operator Change file**, and a copy of this page has been placed there for reference during routing and processing of the original documents.

## ENTITY REVIEW

- Yes 1. (r649-8-7) Entity assignments have been reviewed for all wells listed above. Were entity changes made? (yes/no) no If entity assignments were changed, attach copies of Form 6, Entity Action Form.  
*12053 previously assigned "Humpback (GR) Unit".*
- N/A 2. Trust Lands, Sovereign Lands, Tax Commission, etc., have been notified through normal procedures of entity changes.

## BOND VERIFICATION - (FEE WELLS ONLY)

- N/A Yes 1. (r649-3-1) The NEW operator of any fee lease well listed above has furnished a proper bond.
2. A copy of this form has been placed in the new and former operator's bond files.
3. The FORMER operator has requested a release of liability from their bond (yes/no)     , as of today's date     . If yes, division response was made to this request by letter dated     .

## LEASE INTEREST OWNER NOTIFICATION OF RESPONSIBILITY

1. Copies of documents have been sent on      to      at Trust Lands for changes involving State leases, in order to remind that agency of their responsibility to review for proper bonding.
2. (r649-2-10) The former operator of any fee lease wells listed above has been contacted and informed by letter dated      19     , of their responsibility to notify all interest owners of this change.

## FILMING

- Yes 1. All attachments to this form have been microfilmed. Today's date: 3.20.98.

## FILING

1. Copies of all attachments to this form have been filed in each well file.
2. The original of this form, and the original attachments are now being filed in the Operator Change file.

## COMMENTS

980211 BLM/SL Appr. eff. 2-10-98.

**STATE OF UTAH**  
**DIVISION OF OIL, GAS AND MINING**  
 1594 West North Temple, Suite 1210, PO Box 145801, Salt Lake City, UT 84114-5801

Page 8 of 8

## MONTHLY OIL AND GAS PRODUCTION REPORT

OPERATOR NAME AND ADDRESS:

C/O CRAZY MTN O&G SVS'S  
 EQUITABLE RESOURCES ENERGY  
 PO BOX 577  
 LAUREL MT 59044

UTAH ACCOUNT NUMBER: N9890REPORT PERIOD (MONTH/YEAR): 12 / 97AMENDED REPORT ☐ (Highlight Changes)

Well Name			Producing Zone	Well Status	Days Oper	Production Volumes		
API Number	Entity	Location				OIL(BBL)	GAS(MCF)	WATER(BBL)
MONUMENT FEDERAL 23-25								
4304732529	12053	08S 17E 25	GRRV			467845	Humpback (GR) Unit	
MONUMENT FEDERAL 31-25								
4304732530	12053	08S 17E 25	GRRV			"	"	
PARIETTE FEDERAL 13-24								
4304732546	12053	08S 17E 24	GRRV			445431	"	
PARIETTE FEDERAL 14-24								
4304732645	12053	08S 17E 24	GRRV			"	"	
PARIETTE FEDERAL 24-24								
4304732646	12053	08S 17E 24	GRRV			"	"	
BALCRON MONUMENT FEDERAL 24-25								
4304732669	12053	08S 17E 25	GRRV			467845	"	
BALCRON MONUMENT FEDERAL 34-25								
4304732670	12053	08S 17E 25	GRRV			"	"	
PARIETTE DRAW FEDERAL 8-23								
4304732676	12053	08S 17E 23	GRRV			445431	"	
PARIETTE FEDERAL 23-24								
4304732710	12053	08S 17E 24	GRRV			"	"	
PARIETTE FEDERAL 12-24								
4304732713	12053	08S 17E 24	GRRV			"	"	
MONUMENT FEDERAL 43-10-9-16								
4301331723	12065	09S 16E 10	GRRV					
MONUMENT FEDERAL 34-31-8-16								
4301331715	12067	08S 16E 31	GRRV					
MONUMENT FEDERAL 33-10-9-16								
4301331722	12087	09S 16E 10	GRRV					
TOTALS								

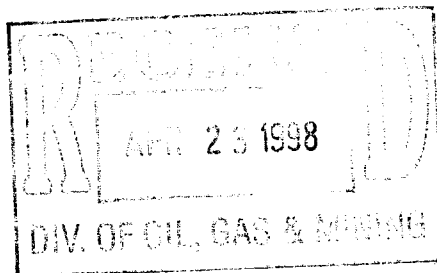
COMMENTS:

I hereby certify that this report is true and complete to the best of my knowledge.

Date: \_\_\_\_\_

Name and Signature: \_\_\_\_\_

Telephone Number: \_\_\_\_\_



April 20, 1998

Mr. Dan Jarvis  
State of Utah  
Division of Oil, Gas and Mining  
P. O. Box 145801  
Salt Lake City, Utah 84114-5801

RE: Permit Application for Water Injection Well  
Balcron Monument Federal #34-25, Humpback Unit  
Monument Butte Field, Lease #U-67845  
Section 25-Township 8S-Range 17E  
Uintah County, Utah

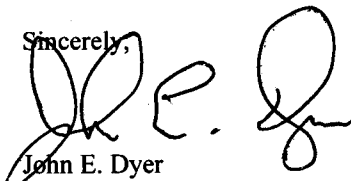
Dear Mr. Jarvis:

Inland Production Company herein requests approval to convert the Balcron Monument Federal #34-25 from a producing oil well to a water injection well in the Monument Butte (Green River) Field, Humpback Unit.

Please note that the wells in this field typically do not produce enough water to sample. Therefore, the sample being submitted with this application is that of a nearby well.

I hope you find this application complete; however, if you have any questions or require additional information, please contact Debbie Knight at (303) 382-4434.

Sincerely,



John E. Dyer  
Chief Operating Officer

**INLAND PRODUCTION COMPANY**  
**APPLICATION FOR APPROVAL OF CLASS II INJECTION WELL**  
**BALCRON MONUMENT FEDERAL #34-25**  
**MONUMENT BUTTE FIELD (GREEN RIVER) FIELD**  
**HUMPBACK UNIT**  
**LEASE #U-67845**  
**APRIL 20, 1998**

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**COMPLETED RULE R615-5-2 QUESTIONNAIRE**

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**ATTACHMENT A-1 WELL LOCATION PLAT**

**ATTACHMENT B LIST OF SURFACE OWNERS WITHIN ONE-HALF MILE RADIUS**

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**ATTACHMENT F WATER ANALYSIS OF THE FLUID TO BE INJECTED**

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**ATTACHMENT H-1 WELLBORE DIAGRAM OF PROPOSED PLUGGED WELL**

## APPLICATION FOR INJECTION WELL - UIC FORM 1

**Comments:**



Elev.GR - 5007.60' GL  
Elev.KB - 5017.60' KB (10' KB)

**PROPOSED INJECTION  
WELLBORE DIAGRAM**

Balcron Monument Federal #34-25  
Monument Butte ( Humpback Unit )  
Lease #U-67845  
SW SE Section 25, T8S, R17E  
800' FSL, 2100' FEL  
Uintah County, Utah

DATE : 7/23/96 DZ

**SURFACE CASING**

CSG SIZE: 8-5/8"  
GRADE: J-55  
WEIGHT: 24#  
LENGTH: 288.77'  
DEPTH LANDED: 288.77' KB  
HOLE SIZE: 12-1/4"  
CEMENT DATA: BJ Services: 190 sks  
"G", 2% CACL<sub>2</sub>, 1/4#/sk  
Cello-Seal

**PRODUCTION CASING**

CSG SIZE: 5-1/2"  
GRADE: J-55  
WEIGHT: 15.5#  
LENGTH: 6098.14'  
DEPTH LANDED: 6108.14' KB  
HOLE SIZE: 7-7/8"  
CEMENT DATA: BJ Services: 220 sks  
Super "G", 47#/sk G,  
20#/sk POZ A, 17#/sk CSE,  
3% salt, 2% gel, 2#/sk Hi-Seal,  
Tail w/395 sks 50/50 POZ,  
2% gel, 1/4#/sk Cello-Seal,  
2#/sk Hi-Seal2.

CEMENT TOP AT: 1730' KB

**TUBING**

SIZE/GRADE/WT.: 2-7/8" 8rd EUE/ J-55/ 6.5#  
NO. OF JOINTS: 166 Jts (5197.44')  
TUBING ANCHOR: 2-7/8"x5-1/2"x2.35' Trico  
NO. OF JOINTS: 3 Jts (95.19')  
SEATING NIPPLE: 2-7/8"x1.10'  
PERFORATED SUB: 2-7/8"x4.20'  
MUD ANCHOR: 2-7/8"x28.42'  
STRING LENGTH: 5328.70'  
SN LANDED AT: 5304.98' KB

**SUCKER RODS**

POLISHED ROD:  
SUCKER RODS:

TOTAL STRING LENGTH:

PUMP NUMBER:  
PUMP SIZE:

STROKE LENGTH:  
PUMP SPEED, SPM:  
PUMPING UNIT:  
PRIME MOVER:

LOGS: Spectral Density Dual Spaced Neutron  
Dual Laterolog  
CBL/GR

**ACID JOB /BREAKDOWN**

10/19/95 5257' - 5268' BJ Services: 4179 gal 2%  
5271' - 5283' KCL wtr w/ 184 ball sealers.  
Ball action no ball off.  
ATP=1400 psi, ATR=  
6.2 bpm, ISIP=550 psi.

**FRAC JOB**

10/20/95 5257' - 5268' BJ Services: 36,456 gal  
5271' - 5283' 2% KCL wtr w/59,120#  
20/40 sand, 87,240# 16/30  
sand. ATP= 1500 psi,  
ATR=37.5 bpm, ISIP=  
1550 psi, 5 min=1300 psi,  
10 min=1250 psi, 15 min=  
1200 psi, 30 min=1030 psi.

**PERFORATION RECORD**

10/19/95 Cutter 5257' - 5268' 4 SPF G-1L  
5271' - 5283' 4 SPF G-1L

5257 - 5268' G-1L  
5271' - 5283' G-1L

EOT LANDED @ 5338.70' KB

PBTD @ 6055' KB  
TD @ 6175' KB

## **WORK PROCEDURE FOR INJECTION CONVERSION**

- 1. Rig up hot oil truck to casing. Pump water. Unseat pump. Flush rods. Trip out of hole with rods and pump.**
- 2. Trip out of hole with tubing, breaking and doping every connection. Trip in hole with packer and tubing. Rig up water truck to casing. Pump packer fluid. Set packer.**
- 3. Test casing and packer.**
- 4. Rig down, move out.**

**REQUIREMENTS FOR INJECTION OF FLUIDS INTO RESERVOIRS  
RULE R615-5-1**

- 1. Operations to increase ultimate recovery, such as cycling of gas, the maintenance of pressure, the introduction of gas, water or other substances into a reservoir for the purpose of secondary or other enhanced recovery or for storage and the injection of water into any formation for the purpose of water disposal shall be permitted only by order of the Board after notice and hearing.**
- 2. A request for agency action for authority for the injection of gas, liquified petroleum gas, air, water or any other medium into any formation for any reason, including but not necessarily limited to the establishment of or the expansion of waterflood projects, enhanced recovery projects, and pressure maintenance projects shall contain:**

**2.1 The name and address of the operator of the project.**

Inland Production Company  
410 17<sup>th</sup> Street, Suite 700  
Denver, Colorado 80202

**2.2 A plat showing the area involved and identifying all wells, including all proposed injection wells, in the project area and within one-half mile of the project area.**

See Attachment A

**2.3 A full description of the particular operation for approval is requested.**

Approval is requested to convert the Balcron Monument Federal #34-25 from a producing oil well to a water injection well in the Monument Butte (Green River) Field, Humpback Unit.

**A description of the pools from which the identified wells are producing or have produced.**

The proposed injection well will inject into the Green River Formation.

**2.4 The names, description and depth of the pool or pools to be affected.**

The injection zone is in the Douglas Creek Member of the Green River Formation. At the Balcron Monument Federal #34-25 well, the proposed injection zone is from 5257'-5283'. The confining stratum directly above and below the injection zone is the Douglas Creek Member of the Green River Formation, with the Douglas Creek Marker top at 5257'.

**2.5 A copy of a log of a representative well completed in the pool.**

The referenced log for the Balcron Monument Federal #34-25 is on file with the Utah Division of Oil, Gas and Mining.

- 2.6 A statement as to the type of fluid to be used for injection, its source and the estimated amounts to be injected daily.**

The type and source of fluid to be used for injection will be culinary water from the Johnson Water District supply line. The average estimated injection of fluids will be at a rate of 300 BPD, and the estimated maximum injection will be at a rate of 500 BPD.

- 2.7 A list of all operators and surface owners within one-half mile radius of the proposed project.**

See Attachment B.

- 2.8 An affidavit certifying that said operators or owners and surface owners within a one-half mile radius have been provided a copy of the petition for injection.**

See Attachment C.

- 2.9 Any additional information the Board may determine is necessary to adequately review the petition.**

Inland Production Company will supply any additional information requested by the Utah Division of Oil, Gas and Mining.

- 4.0 Establish recovery projects may be expanded and additional wells placed on injection only upon authority from the Board after notice and hearing or by administrative approval.**

This proposed injection well is on a Federal lease (Lease #U-67845), in the Monument Butte (Green River) Field, Humpback Unit, and this request is for administrative approval.

**REQUIREMENTS FOR CLASS II INJECTION WELLS INCLUDING WATER DISPOSAL,  
STORAGE AND ENHANCED RECOVERY WELLS  
SECTION V – RULE R615-5-2**

- 1. Injection well shall be completed, equipped, operated, and maintained in a manner that will prevent pollution and damage to any USDW, or other resources and will confine injected fluids to the interval approved.**
- 2. The application for an injection well shall include a properly completed Form DOGM-UIC-1 and the following:**
  - 2.1 A plat showing the location of the injection well, all abandoned or active wells within a one-half mile radius of the proposed wells, and the surface owner and the operator of any lands or producing leases, respectively, within a one-half mile radius of the proposed injection well.**

See Attachment A and B.
  - 2.2 Copies of electrical or radioactive logs, including gamma ray logs, for the proposed well run prior to the installation of casing and indicating resistivity, spontaneous potential, caliper and porosity.**

All logs are on file with the Utah Division of Oil, Gas and Mining.
  - 2.3 A copy of a cement bond or comparable log run for the proposed injection well after casing was set and cemented.**

A copy of the cement bond log is on file with the Utah Division of Oil, Gas and Mining.
  - 2.4 Copies of logs already on file with the Division should be referenced, but need not be refiled.**

All copies of logs are on file with the Utah Division of Oil, Gas and Mining.
  - 2.5 A description of the casing or proposed casing program of the injection well and of the proposed method for testing the casing before use of the well.**

The casing program is 8-5/8", 24#, J-55 surface casing run to 299' GL, and the 5-1/2" casing run from surface to 6108' KB. A casing integrity test will be conducted at the time of conversion. See Attachment E.
  - 2.6 A statement as to the type of fluid to be used for injection, its source and estimated amounts to be injected daily.**

The type and source of fluid to be injected is culinary water from the Johnson Water District supply line. The estimated average rate of injection will be 300 BPD, and the estimated maximum rate of injection will be 500 BPD.
  - 2.7 Standard laboratory analysis of the fluid to be injected, the fluid in the formation into which the fluid is being injected, and the compatibility of the fluids.**

See Attachment F, F-1, and F-2.

**2.8 The proposed average and maximum injection pressures.**

The proposed average injection pressure will be approximately 1100 psig and the maximum injection pressure will not exceed 1550 psig.

**2.9 Evidence and data to support a finding that the proposed injection well will not initiate fractures through the overlying strata or a confining interval that could enable the injected fluid or formation fluid to enter the fresh water strata.**

The fracture gradient for the Balcron Monument Federal #34-25, for proposed zones (5257'-5283') calculates at .73 psig/ft. The maximum injection pressures will be limited so as not to exceed this gradient. A step rate test will be performed periodically to ensure we are below parting pressure. The proposed maximum injection pressure is 1550 psig. See Attachment G through G-1.

**2.10 Appropriate geological data on the injection interval and confining beds, including the geologic name, lithologic description, thickness, depth, and lateral extent.**

In the Balcron Monument Federal #34-25, the injection zone (5257'-5283') is in the Douglas Creek member of the Green River Formation. The reservoir is a very fine-grained sandstone with minor imbedded shale streaks. The estimated porosity is 13%. The Douglas Creek member is composed of porous and permeable lenticular calcareous sandstone and low porosity carbonates and calcareous shale. The porous and lenticular sandstone varies in thickness from 0-31', and is confined to the Monument Butte Field. Outside the Monument Butte Field, the sandstone is composed of tight, very fine, silty, calcareous sandstone, less than 3' thick. The stratum confining the injection zone is composed of tight, moderately calcareous, sandy lacustrine shale. All of the confining strata are impermeable, and will effectively seal off the oil, gas, and water of the injection zone from any strata directly above or below it.

**2.11 A review of the mechanical condition of each well within a one-half mile radius of the proposed injection well to assure that no conduit exists that could enable fluids to migrate up or down the wellbore and enter the improper intervals.**

See Attachments E through E-5.

Additionally, the injection system will be equipped with high and low pressure shut down devices that will automatically shut in injection waters if a system blockage or leakage occurs. One way check valves will also ensure proper flow management. Relief valves will also be utilized for high-pressure relief.

**2.12 An affidavit certifying that a copy of the application has been provided to all operators or owners, and surface owners within a one-half mile radius of the proposed injection well.**

See Attachment C.

**2.13 Any other information that the Board or Division may determine is necessary to adequately review the application.**

Inland Production Company will supply any requested information to the Board or Division.

## Attachment A

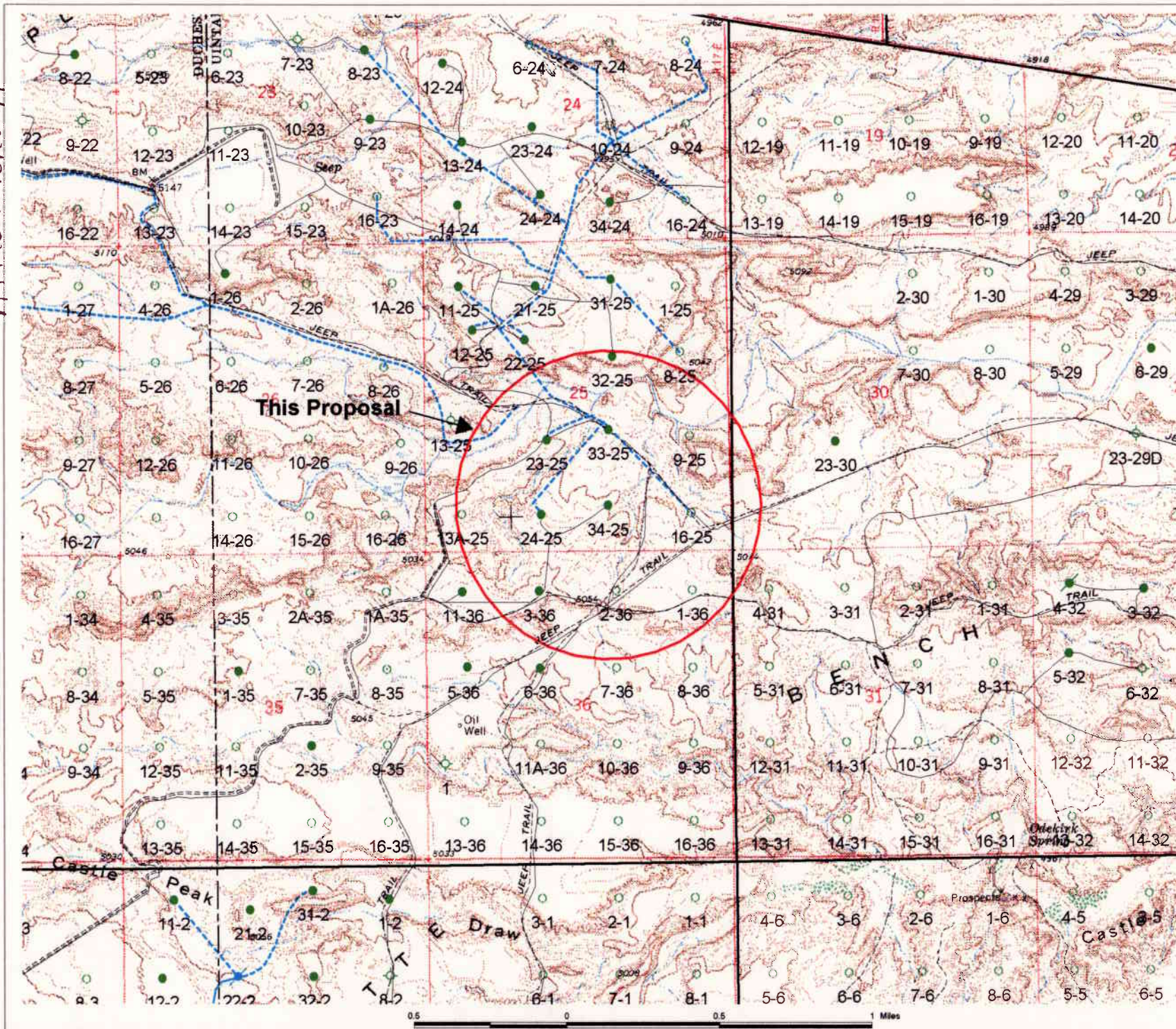


Exhibit "A"



- Legend**
-  INJ
  -  OIL
  -  GAS
  -  O&G
  -  DRY
  -  SHUTIN
  -  LOC
  -  Proposed Water 6"
  -  Water 6"
  -  Water 4"
  -  Water 2 - 3"
  -  Proposed Water

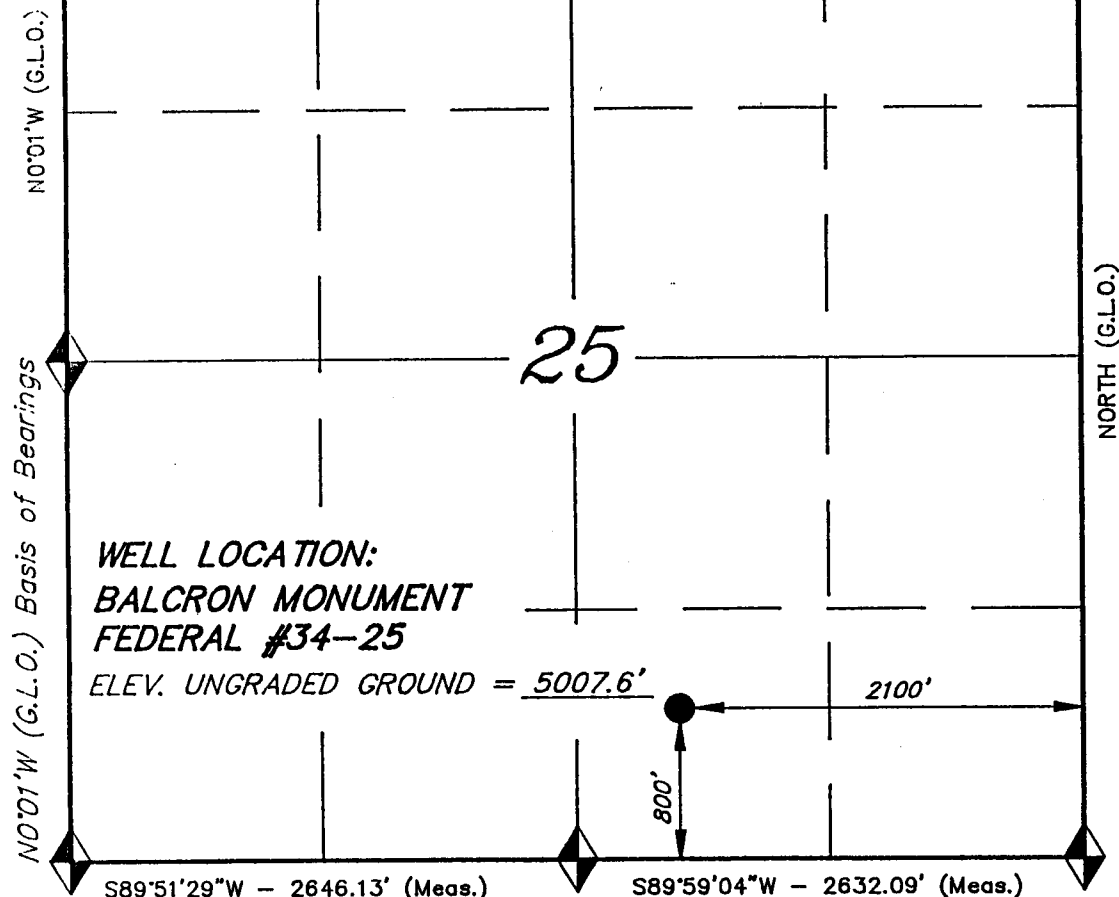


**T8S, R17E, S.L.B.&M.**

***EQUITABLE RESOURCES ENERGY CO.***

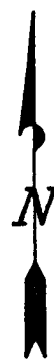
N89°58'W - 79.90 (G.L.O.)

WELL LOCATION, BALCRON MONUMENT FEDERAL #34-25, LOCATED AS SHOWN IN THE ~~SE~~ 1/4 SE 1/4 OF SECTION 25, T8S, R17E, SW S.L.B.&M. UTAH COUNTY, UTAH.



**WELL LOCATION:  
BALCRON MONUMENT  
FEDERAL #34-25**

ELEV. UNGRADED GROUND = 5007.6'



THIS IS TO CERTIFY THAT THE ABOVE THAT WAS PREPARED FROM FIELD NOTES OF LAND SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

*Stacy W. Stewart*  
No. 189377  
REGISTERED LAND SURVEYOR  
REGISTRATION No. 189377  
STATE OF UTAH

**TRI STATE LAND SURVEYING & CONSULTING**  
38 EAST 100 NORTH, VERNAL, UTAH 84078  
(801) 781-2501

SCALE: 1" = 1000'	SURVEYED BY: G.S. R.H.
DATE: 11-17-94	WEATHER: COOL
NOTES:	FILE #34-25



= SECTION CORNERS LOCATED  
BASIS OF BEARINGS; G.L.O. DATED 1910  
BASIS OF ELEV; U.S.G.S. 7-1/2 min QUAD (PARIETTE DRAW SW)

Attachment A-1

# EXHIBIT B

Page 1

#	Land Description	Minerals Ownership & Expires	Minerals Leased By	Surface Rights
1	Township 8 South, Range 17 East Section 22: NE/4, E/2NW/4, S/2 Section 25: W/2E/2, NW/4 N/2SW/4, SE/SW Section 26: N/2, N/2S/2	U-67845 HBP	Inland Production Company	(Surface Rights) USA
2	Township 8 South, Range 17 East Section 24: L1, E/2SW/4 Section 25: E/2E/2, SW/4SW/4 Section 26: SE/4SE/4	U-74870 HBP	Inland Production Company	(Surface Rights) USA
3	Township 8 South, Range 17 East Section 36: All	ML-44305 HBP	Inland Production Company Yates Petroleum Corporation ABO Petroluem Corporation Yates Drilling Company Myco Industries	(Surface Rights) St. of Utah

Attachment B  
(Pg 1 of 2)

# EXHIBIT B

Page 2

#	Land Description	Minerals Ownership & Expires	Minerals Leased By	Surface Rights
4	Township 8 South Range 18 East Section 26: S/2SE/4 Section 28: S/2SW/4, SW/4SE/4 Section 29: S/2 Section 30: Lots 1-4, E/2W/2, SE/4 Section 34: N/2; Section 35: N/2N/2, SE/4NE/4	U-51081 HBP	Wildrose Resources Corp	(Surface Rights) USA
5	Township 8 South Range 18 East Section 26: SW/4SW/4 Section 31: Lots 1,2, NE/4 E/2NW/4	U-74872 2005	Inland Production Company	(Surface Rights) USA

Attachment B  
(Pg 2 of 2)

ATTACHMENT C

CERTIFICATION FOR SURFACE OWNER NOTIFICATION

RE: Application for Approval of Class II Injection Well  
Balcron Monument Federal #34-25

I hereby certify that a copy of the injection application has been provided to all surface owners within a one-half mile radius of the proposed injection well.

Signed: \_\_\_\_\_



Inland Production Company  
John E. Dyer  
Chief Operating Officer

Sworn to and subscribed before me this 20<sup>th</sup> day of April, 1998.

Notary Public in and for the State of Colorado: Patsy A. Barreau



My Commission Expires 11/14/2000



Elev.GR - 5007.60' GL  
Elev.KB - 5017.60' KB (10' KB)

## WELLBORE DIAGRAM

Attachment E

Balcron Monument Federal #34-25  
Monument Butte ( Humpback Unit )  
Lease #U-67845  
SW SE Section 25, T8S, R17E  
800' FSL, 2100' FEL  
Uintah County, Utah

DATE : 7/23/96 DZ

### SURFACE CASING

CSG SIZE: 8-5/8"  
GRADE: J-55  
WEIGHT: 24#  
LENGTH: 288.77'  
DEPTH LANDED: 298.77' KB  
HOLE SIZE: 12-1/4"  
CEMENT DATA: BJ Services: 190 sks  
"G", 2% CACL<sub>2</sub>, 1/4#/sk  
Cello-Seal

### PRODUCTION CASING

CSG SIZE: 5-1/2"  
GRADE: J-55  
WEIGHT: 15.5#  
LENGTH: 6098.14'  
DEPTH LANDED: 6108.14' KB  
HOLE SIZE: 7-7/8"  
CEMENT DATA: BJ Services: 220 sks  
Super "G", 47#/sk G,  
20#/sk POZ A, 17#/sk CSE,  
3% salt, 2% gel, 2#/sk Hi-Seal,  
Tail w/395 sks 50/50 POZ,  
2% gel, 1/4#/sk Cello-Seal,  
2#/sk Hi-Seal2.

CEMENT TOP AT: 1730' KB

### TUBING

SIZE/GRADE/WT.: 2-7/8" 8rd EUE/ J-55/ 6.5#  
NO. OF JOINTS: 166 Jts (5197.44')  
TUBING ANCHOR: 2-7/8"x5-1/2"x2.35' Trico  
NO. OF JOINTS: 3 Jts (95.19')  
SEATING NIPPLE: 2-7/8"x1.10'  
PERFORATED SUB: 2-7/8"x4.20'  
MUD ANCHOR: 2-7/8"x28.42'  
STRING LENGTH: 5328.70'  
SN LANDED AT: 5304.98' KB

### SUCKER RODS

POLISHED ROD: 1-1/4"x22' SM  
SUCKER RODS: 2-3/4"x4' Pony  
212-3/4"x25' D-61 Plain

TOTAL STRING LENGTH: 5330'

PUMP NUMBER: Trico #1124  
PUMP SIZE: 2-1/2"x1-1/2"x16' RWAC

STROKE LENGTH: 86 inches  
PUMP SPEED, SPM: 3 SPM  
PUMPING UNIT: American C-228  
PRIME MOVER: Ajax E-42

LOGS: Spectral Density Dual Spaced Neutron  
Dual Laterolog  
CBL/GR

### ACID JOB /BREAKDOWN

10/19/95 5257' - 5268' BJ Services: 4179 gal 2%  
5271' - 5283' KCL wtr w/ 184 ball sealers.  
Ball action no ball off.  
ATP=1400 psi, ATR=  
6.2 bpm, ISIP=550 psi.

### FRAC JOB

10/20/95 5257' - 5268' BJ Services: 36,456 gal  
5271' - 5283' 2% KCL wtr w/59,120#  
20/40 sand, 87,240# 16/30  
sand. ATP= 1500 psi,  
ATR=37.5 bpm, ISIP=  
1550 psi, 5 min=1300 psi,  
10 min=1250 psi, 15 min=  
1200 psi, 30 min=1030 psi.

### PERFORATION RECORD

10/19/95	Cutter	5257' - 5268'	4 SPF	G-1L
		5271' - 5283'	4 SPF	G-1L

5257 - 5268' G-1L  
5271' - 5283' G-1L

SN LANDED @ 5305' KB  
EOT LANDED @ 5338.70' KB

PBTD @ 6055' KB  
TD @ 6175' KB



Elev.GR - 5059.59' GL  
Elev.KB - 5069.59' KB (10' KB)

## WELLBORE DIAGRAM

Balcron Monument Federal #32-25  
Monument Butte ( Humpback Unit )  
Lease #U-67845  
SW NE Section 25, T8S, R16E  
1980' FNL, 1980' FEL  
Uintah County, Utah

DATE : 7/22/96 DZ

## SURFACE CASING

CSG SIZE: 8-5/8"  
GRADE: J-55  
WEIGHT: 24#  
LENGTH: 273.89' (7 jts)  
DEPTH LANDED: 267.89' KB  
HOLE SIZE: 12-1/4"  
CEMENT DATA: 200 sks "G", 2% CaCl<sub>2</sub>,  
1/4#/sk Cello-Seal.

## PRODUCTION CASING

CSG SIZE: 5-1/2"  
GRADE: K-55  
WEIGHT: 15.5#  
LENGTH: 6263.07'  
DEPTH LANDED: 6259' KB  
HOLE SIZE: 7-7/8"  
CEMENT DATA: 150 sks super "G", 47 #/sk gel  
20#/sk POZ, 17#/sk CSF, 3%  
salt, 2% Gel, 2# sk Hi-Seal,  
1/4#/sk Cello-Seal.  
Tailed w/371 sks 60/50 POZ  
2% gel, 1/4#/sk Cello-Seal  
2#/sk Hi-Seal.

CEMENT TOP AT: 2638' KB

## TUBING

SIZE/GRADE/WT.: 2-7/8" / J-55 / 6.5#  
NO. OF JOINTS: 164 jts (5079.86')  
TUBING ANCHOR: 2-7/8"x5-1/2"x2.75'  
NO. OF JOINTS: 29 jts (899.04')  
SEATING NIPPLE: 2-7/8"x1.10'  
PERFORATED SUB: 2-7/8"x4.20'  
MUD ANCHOR: 2-7/8"x31.65'  
TOTAL STRING LENGTH: 6018.6'  
SN LANDED AT: 5992.75' KB

## SUCKER RODS

POLISHED ROD: 1-1/4"x22' SM  
SUCKER RODS: 1-3/4"x2' Pony  
1-3/4"x6' Pony  
1-3/4"x8' Pony  
237-3/4"x25' D-61 Plain

ROD STRING LENGTH: 5963'

PUMP NUMBER: Trico #1069  
PUMP SIZE: 2-1/2"x1-1/2"x16' RWAC

STROKE LENGTH: 64"  
PUMP SPEED, SPM: 6.0 SPM  
PUMPING UNIT SIZE: Lufkin 228D-TCI-TR  
PRIME MOVER: Ajax E-30

LOGS: Compensated Neutron/ Litho Density  
Multiple Isotope Spectroscopy  
Repeat Formation Tester  
CBL/GR  
Dual Laterolog

## ACID JOB /BREAKDOWN

12/12/94 5939'-5950' Western: 500 gal 15% HCL  
w/2142 gal 2% KCL wtr & 88 balls.  
ATP=3000 psi, ATR= 5.0 bpm,  
ISIP=1100 psi.

12/15/94 5581'-5584'  
5594'-5606'  
5608'-5614' Western: Unknown vol.  
2 %KCL wtr w/175 ball  
sealers. Ball action but  
no ball out. ATP= 2800 psi,  
ATR=5.5 bpm, ISIP=2000  
psi.

12/20/94 5138'-5151' Western: 2940 gals 2%  
KCL wtr w/ 100 ball  
sealers. Ball action but  
no ball off. ATP=2400 psi,  
ATR=4.5 bpm, ISIP=  
1300 psi.

12/20/94 5220'-5224'  
5232'-5236'  
5240'-5244' Western: Unknown vol 2%  
KCL wtr w/ 100 ball sealers.  
Balled off. ATP=2500 psi,  
ATR=5.0 bpm, ISIP=  
1100 psi.

## FRAC JOB

12/13/94 5939'-5950' Western: 52,486 gal 2% KCL  
40,720# 20/40 sand &  
34,040# 16/30 sand.  
ATP=1800 psi, ATR=31.5  
bpm, ISIP=1900 psi, 5 min=  
1540 psi, 10 min=1390 psi,  
15 min=1310 psi, 30 min=  
1220 psi.

12/16/94 5581'-5584'  
5594'-5606'  
5608'-5614' Western: 41,538 gal 2%  
KCL wtr w/ 72,560# 20/40  
sand, 62,000# 16/30 sand.  
ATP=2150 psi, ATR=30.6 bpm,  
ISIP=2050 psi, 5 min=1910,  
10 min=1800 psi, 15 min=  
1720 psi.

12/21/94 5138'-5151'  
5220'-5224'  
5232'-5236'  
5240'-5244' Western: 38,724 gal 2%  
KCL wtr w/ 79,640# 20/40  
sand, 66,220# 16/30 sand.  
ATR= 37 bpm, ISIP= 1650 psi.  
Frac Grad.= 0.76

## PERFORATION RECORD

DATE	COMPANY	DEPTH	SPF	SIZE
12/12/94	Schlumberger	5939'-5950'	4 SPF	B-1D
12/15/94	Schlumberger	5581'-5584'	4 SPF	G-5
		5594'-5606'	4 SPF	G-5
		5608'-5614'	4 SPF	G-5
12/19/94	Schlumberger	5138'-5151'	4 SPF	R-5U
		5220'-5224'	4 SPF	R-5
		5232'-5236'	4 SPF	R-5
		5240'-5244'	4 SPF	R-5

## PROPOSED PERFORATIONS :

5391' - 5404' G-1L 13 ft 4 SPF

267.89' KB

TOC @ 2638' KB

5138'-51' R-5U

5220'-24' R-5U

5232'-36' R-5U

5240'-44' R-5U

PP 5391'-5404' G-1L

5581'-84' G-5

5594'-06' G-5

5608'-14' G-5

5939'-50' B-1D

SN LANDED @ 5993' KB  
EOT LANDED @ 6029' KB

PBTD @ 6392' KB  
TD @ 6450' KB



Elev. GR - 4992' GL  
Elev. KB - 5002' KB (10' KB)

# WELLBORE DIAGRAM

Attachment E-2

Balcron Monument Federal # 23-25  
Monument Butte ( Humpback Unit )  
Lease #U-67845  
NE SW Section 25, T8S, R17E  
1927' FSL, 2139' FVL  
Uintah County, Utah

DATE : 10/25/96 vk

## SURFACE CASING

CSG SIZE: 8-5/8"  
GRADE: J-55  
WEIGHT: 24#  
LENGTH: 260.50' (6 jts)  
DEPTH LANDED: 270.50' KB  
HOLE SIZE: 12-1/4"  
CEMENT DATA: By Western W/ 160 sxs  
class "G", 2% CaCL2,  
1/4#/sk cello-seal.

## PRODUCTION CASING

CSG SIZE: 5-1/2"  
GRADE: J-55  
WEIGHT: 15.5#  
LENGTH: 6173.26' (146 jts)  
DEPTH LANDED: 6182.26' KB  
HOLE SIZE: 7-7/8"  
CEMENT DATA: 50 sxs super "G", 47#/sk  
POZ, 17#/sk CSE, 3% salt  
2% gel, 5#/sk HISEAL,  
2-1/4#/sk CELLOSEAL  
Tailed w/ 125 sxs super "G",  
47#/sk G +20#/sk POZ  
17#/sk CSE, 3% salt, 2% GEL  
2#/sk HISEAL, 2-1/4#/sk CELLOSEAL  
450 sxs 50/50 POZ + 2% GEL,  
2#/sk HISEAL

CEMENT TOP AT: 2230' KB

## TUBING

SIZE/GRADE/WT.: 2-7/8" EUE / J-55 / 6.5#  
NO. OF JOINTS: 162 jts (5108.03')  
TUBING ANCHOR: 2 7/8 x 5 1/2 - 2.35  
NO. OF JOINTS: 27 jts (831.27')  
SEATING NIPPLE: 2 7/8 - 1.10'  
PERFORATED SUB: 2 7/8 - 4.20'  
MUD ANCHOR: 2 7/8 / 31.07'  
STRING LENGTH: 5978.02'  
SN LANDED AT: 5952.75' KB

## SUCKER RODS

POLISHED ROD: 1-1/4"x22'  
SUCKER RODS: 237- 3/4"x25' D-61 Plain

STRING LENGTH: 5925'

PUMP NUMBER: Trico # 1127  
PUMP SIZE: 2-1/2"x1-1/2"x16' RWAC

STROKE LENGTH: 85.5"  
PUMP SPEED, SPM: 7-1/2" SPM  
PUMPING UNIT: American 228-213-86  
PRIME MOVER: Ajax EH-30

LOGS: Digital Sonic Log  
Dipole Shear Anisotropy Log  
Integrated Porosity Lithology Log  
CBL/GR  
Formation Microimager Monitor Log  
Mechanical Properties Impact Log

## ACID JOB /BREAKDOWN

2/8/95	5824'-5827'	Western: 2940 gal 2% KCL wtr
	5830'-5834'	w/ 100 ball sealers, ball
	5850'-5855'	action seen but no ball out.
		ATP= 4700 psi, ATR=6.0 bpm
		ISIP= 1000 psi.
2/8/95	5886'-5898'	Western: 3150 gal 2% KCL
		wtr w/ 100 ball sealers.
		Ball action seen but no ball off.
		ATP= 2300 psi, ATR=
		5.9 bpm, ISIP=1000 psi.
2/13/95	5300'-5308'	Western: 3486 gals 2% KCL
	5327'-5338'	w/ 150 ball sealers. Ball action
		seen but no ball off. ATP=
		2150 psi, ATR= 5.0 bpm,
		ISIP= 800 psi.
2/13/95	5378'-5394'	Western: 4452 gals 2% KCL
		w/ 125 ball sealers.
		Ball actions seen but no
		ball off. ATP=1800 psi,
		ATR= 6.1 bpm, ISIP= 800 psi.
2/27/95	5160'-5175'	Western: 3822 gal 2% KCL
	5204'-5207'	wtr, w/ 125 ball sealers.
	5214'-5216'	Ball action seen but no
		ball off. ATP=2400 psi, ATR=
		6.8 bpm, ISIP= 1100 psi.

## FRAC JOB

2/8/95	5824'-5827'	Western: 40,908 gal 2%
	5830'-5834'	KCL wtr w/ 60,480 # 20/40 sand
	5850'-5855'	and 90,640 # 16/30 sand.
	5886'-5898'	ATP= 1700 psi, ATR=
		31.5 bpm, ISIP=1750 psi,
		5 min=1580 psi, 10 min=
		1490 psi, 15 min=1420 psi,
		30 min=1360 psi.
2/20/95	5300'-5308'	Western: 47,208 gals 2%
	5327'-5338'	KCL wtr w/ 60,000# 20/40
	5378'-5394'	sand & 92,000# 16/30 sand.
		ATP=1200 psi, ATR=33.0
		bpm, ISIP=1500 psi, 5 min=
		1360 psi, 10 min=1250 psi,
		15 min=1180 psi, 30 min=
		985 psi.
2/27/95	5160'-5175'	Western: 37,548 gals 2%
	5204'-5207'	KCL wtr, w/ 67,000# 20/40
	5214'-5216'	sand & 68,700# 16/30 sand.
		ATP= 1950 psi, ATR= 31 bpm,
		ISIP= 1650 psi.

## PERFORATION RECORD

2/7/95	Cutter Wireline Service	5824'-5827'	4 SPF	B-1C
		5830'-5834'	4 SPF	B-1C
		5850'-5855'	4 SPF	B-1D
		5886'-5898'	4 SPF	B-2
2/13/95	Cutter Wireline Service	5300'-5308'	4 SPF	G-1
		5327'-5338'	4 SPF	G-1
		5378'-5394'	4 SPF	G-1
2/27/96	Cutter Wireline Service	5160'-5176'	4 SPF	R-5
		5204'-5207'	4 SPF	R-5
		5214'-5216'	4 SPF	R-5

## PROPOSED PERFORATIONS :

4531' - 4533'	4 SPF	2 ft	8 holes
4543' - 4554'	4 SPF	11 ft	44 holes

SN LANDED @ 5952.75' KB  
EOT LANDED @ 5988' KB

PBTD @ 6137' KB  
TD @ 6200' KB



Elev.GR - 4971.50' GL  
Elev.KB - 4981.50' KB (10' KB)

## WELLBORE DIAGRAM

Attachment E-3

**Balcron Monument Federal #33-25**  
Monument Butte ( Humpback Unit )  
Lease #U-67845  
NW SE Section 25, T8S, R17E  
2097' FSL, 2067' FEL  
Uintah County, Utah

DATE : 7/23/96 DZ

### SURFACE CASING

CSG SIZE: 8-5/8"  
GRADE: J-55  
WEIGHT: 24#  
LENGTH: 261.90' ( 7 jts)  
DEPTH LANDED: 271.90'  
HOLE SIZE: 12-1/4"  
CEMENT DATA: Western: 160 sks class "G"  
2% CaCl<sub>2</sub>, 1/4#/sk Cello-Seal.

### PRODUCTION CASING

CSG SIZE: 5-1/2"  
GRADE: J-55  
WEIGHT: 15.5#  
LENGTH: 6132.05' (147 jts)  
DEPTH LANDED: 6141.05' KB  
HOLE SIZE: 7-7/8"  
CEMENT DATA: Western: 160 sks Super  
"G", 47#/sk "G", 20#/sk  
POZ A, 17 #/sk CSE, 3%  
salt, 2%gel, 2#/sk Hi-Seal,

CEMENT TOP AT: 2771' KB

### TUBING

SIZE/GRADE/WT.: 2-7/8" 8 rd EUE / J-55 / 6.5#  
NO. OF JOINTS: 165 jts (5091.06')  
TUBING ANCHOR: 2-7/8"x5-1/2"x2.35' Trico  
NO. OF JOINTS: 30 jts (927.72')  
SEATING NIPPLE: 2-7/8"x1.10'  
PERFORATED SUB: 2-7/8"x4.20'  
MUD ANCHOR: 2-7/8"x30.78'  
STRING LENGTH: 6057.21'  
SN LANDED AT: 6032.23' KB

### SUCKER RODS

WELL LAST PULLED:

POLISHED ROD: 1-1/4"x22' SM  
SUCKER RODS: 1-3/4"x6' Pony  
240-3/4"x25' D-61 Plain

TOTAL STRING LENGTH: 6028'

PUMP NUMBER: Trico #1089  
PUMP SIZE: 2-1/2"x1-1/2"x16' RWAC

STROKE LENGTH: 73 inches  
PUMP SPEED, SPM: 4.0 SPM  
PUMPING UNIT: Lufkin C-228D-27-74  
PRIME MOVER: Ajax E-42

LOGS: Dual Laterolog  
CBL/GR  
Spectral Density Dual Spaced  
Neutron log.

### ACID JOB /BREAKDOWN

1/24/95	5889'-5925'	Western: 3612 gals 2% KCL wtr w/ 150 ball sealers. Ball action but no ball off. ATP=3500 psi, ATR= 5.0 bpm, ISIP=1000 psi.
1/24/95	6021'-6026'	Western: 1764 gal 2% KCL wtr w/ 25 ball sealers. Ball off. ATP= 3200 psi, ATR=5.30 bpm, ISIP= 1400 psi.
1/30/95	5163'-5166' 5170'-5180'	Western: 2058 gal 2% KCL wtr w/ 10 ball sealers. Ball action but no ball off. ATP=2200 psi, ATR= 4.2bpm.
1/30/95	5299'-5304' 5312'-5320' 5326'-5324'	Western: 2226 gal 2% KCL wtr w/ 20 ball sealers. Ball action but no ball off. ATP= 2400 psi, ATR=5.2 bpm, ISIP=650 psi.

### FRAC JOB

1/25/95	5889'-5925' 6021'-6026'	Western: 47,376 gal 2% KCL wtr w/ 93,640# 20/40 sand & 75,800# 16/30 sand & 75,800# 16/30 sand. ATP=1700 psi, ATR=38.0 bpm, ISIP= 1750 psi, 5 min=1550 psi, 10 min=1440 psi, 15 min= 1360 psi, 30 min=1220 psi.
1/31/95	5163'-5166' 5170'-5180' 5299'-5304' 5312'-5320' 5326'-5334'	Western: 54,550 gal 2% KCL wtr w/ 95,000# 20/40 sand & 78,000# 16/30 sand. ATP=2000 psi, ATR=34.0 bpm, ISIP=1480 psi, 5 min= 1320 psi, 10 min=1220 psi, 15 min=1170 psi, 30 min= 1110 psi.

### PERFORATION RECORD

1/24/95	Schlumberger	5889'-5925'	2 SPF	B-2
		6021'-6026'	2 SPF	B-3C
1/30/95	Schlumberger	5163'-5166'	1 hole	R-5
		5170'-5180'	4 holes	R-5
		5299'-5304'	2 holes	G-1L
		5312'-5320'	6 holes	G-1L
		5326'-5334'	2 holes	G-1L

271.90' KB

TOC @ 2771' KB

5163'-5166' R-5  
5170'-5180' R-5  
5299'-5304' G-1L  
5312'-5320' G-1L  
5326'-5334' G-1L

5889'-5925' B-2  
6021'-6026' B-3C

SN LANDED @ 6032.23' KB  
EOT LANDED @ 6067.21' KB

PBTD @ 6095' KB  
TD @ 6150' KB



Elev.GR - 5018' GL  
Elev.KB - 5028' KB (10' KB)

#### WELLBORE DIAGRAM

Attachment E-4

Balcron Monument Federal #24-25  
Monument Butte ( Humpback Unit )  
Lease #U-67845  
SE SW Section 25, T8S, R17E  
653' FSL, 2028' FWL  
Uintah County, Utah

DATE : 7/18/96 DZ

#### SURFACE CASING

CSG SIZE: 8-5/8"  
GRADE: J-55  
WEIGHT: 24#  
LENGTH: 291.52' (7 jts)  
DEPTH LANDED: 301.52' KB  
HOLE SIZE: 12-1/4"  
CEMENT DATA: By BJ Services: 190 sks  
class"G", 220 CaCl<sub>2</sub>,  
1/4#/sk cello seal.

#### PRODUCTION CASING

CSG SIZE: 5-1/2"  
GRADE: J-55  
WEIGHT: 15.5#  
LENGTH: 6206.84' (142 jts)  
DEPTH LANDED: 6216.84' KB  
HOLE SIZE: 7-7/8"  
CEMENT DATA: By BJ Services: 191 sks  
Super "G", 47#G +20#/sk  
POZ, 17#/sk CSE, 3% salt  
2% Gel, 2#/sk HISEAL,  
1/4#/sk CELLO SEAL

CEMENT TOP AT: 1840' KB

#### TUBING

SIZE/GRADE/WT.: 2-7/8" EUE 8rd / J-55 / 6.5#  
NO. OF JOINTS: 166 jts (5207.44')  
TUBING ANCHOR: 2-7/8"x5-1/2"x2.35'  
NO. OF JOINTS: 3 jts (5304.98')  
SEATING NIPPLE: 2-7/8"x1.10'  
PERFORATED SUB: 2-7/8"x4.20'  
MUD ANCHOR: 2-7/8"x28.42'  
STRING LENGTH: 5328.70'  
SN LANDED AT: 5306.08' KB

#### SUCKER RODS

POLISHED ROD: 1-1/4"x22' SM  
SUCKER RODS: 2-3/4"x4' Pony Rods  
212-3/4"x25' D-61 Plain

TOTAL STRING LENGTH: 5330'

PUMP NUMBER: Trico # 1124  
PUMP SIZE: 2-1/2"x1-1/2"x16" RWAC

STROKE LENGTH: 86"  
PUMP SPEED, SPM: 6.0 SPM  
PUMPING UNIT: Beth. 320-2461-86  
PRIME MOVER: Ajax E-42

LOGS: CBL/GR  
Dual Laterolog/GR  
Compensated Neutron  
Litho Density

#### ACID JOB /BREAKDOWN

10/9/95	5056'-5062' 5072'-5074'	BJ Services: 1558 gal 2% KCL wtr w/ 12 ball sealers. Ball out. ATP=3200 psi, ATR= 3.3 bpm, ISIP=1200 psi.
10/9/95	5137'-5151'	BJ Services: 1587 gal 2% KCL wtr w/ 16 ball sealers. Ball off. ATP= 2000 psi, ATR= 3.4 bpm, ISIP=1000 psi.
10/10/95	5056'-5062' 5072'-5074'	BJ Services: Second breakdown on this section. 200 gal 15% HCL w/ 3168 gal 2% KCL wtr. & 16 ball sealers. Ball action but no ball off. ATP=2000 psi, ATR= 3.1 bpm, ISIP=100 psi.
10/10/95	5137'-5151'	BJ Services: 300 gal 15% HCL w/ 1674 gal 2% KCL wtr w/ 16 ball sealers. Ball action but no ball out. ATP=2500 psi, ATR=3.3 bpm, ISIP= 1200 psi.
10/14/95	5006'-5012' 5022'-5024'	BJ Services: 500 gal 15% HCL w/ 1764 gal 2% KCL wtr 7 64 ball sealers. Ball action but no ball out. ATP= 1800 psi, ATR=5.0 bpm, ISIP=1050 psi.
10/16/95	4528'-4536'	BJ Services: 2016 gal 2% KCL wtr w/ 64 ball sealers ATP=3200 psi, ATR= 2.0 bpm. ISIP=1650 psi.

#### FRAC JOB

10/10/95	5056'-5062' 5072'-5074' 5137'-5151'	BJ Services: 6,006 gal 2% KCL wtr w/ 4800 # 20/40 sand. ATP=4900 psi. Perfs would not take fluid. Shut down frac and TIH w/ pkr and break down perfs.
10/11/95	5056'-5062' 5072'-5074' 5137'-5151'	BJ Services: Second attempt: 34,272 gals 2% KCL wtr w/ 52,300 # 20/40 sand & 86,520 # 16/30 sand. ATP=4000 psi, ATR=33.5 bpm , ISIP= 2800 psi, 5 min=2190 psi, 10 min=1670 psi, 15 min= 1360 psi, 30 min=1100 psi. No frac done on this zone.
10/14/95	5006'-5012' 5022'-5024'	BJ Services: 11,298 gal 2% KCL wtr w/ 50,260# 16/30 sand. ATP= 3200 psi, ATR= 31 bpm, ISIP= 4500 psi, 5 min= 2920 psi, 10 min= 2540 psi, 15 min= 2160 psi.
10/16/95	4528'-4536'	

#### PERFORATION RECORD

10/9/95	Schlumberger	5056'-5062' 5072'-5074' 5137'-5151'	8 holes Shale 2 holes Shale 4 holes R-5
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SN LANDED @ 5306.08' KB  
EOT LANDED @ 5338.70' KB

10/13/95	Schlumberger	5006'-5012' 5022'-5024'	4 SPF R-2 4 SPF R-2
10/14/95	Schlumberger	4528'-4536'	4 SPF Y-3

PBTD @ 6167' KB  
TD @ 6250' KB

## Odekirk Spring #3-36

Waiting on Completion

Spud Date: 1/30/98  
 Put on Production: WOC  
 GL: ? KB: ?

SURFACE CASING

CSG SIZE: 8-5/8"  
 GRADE: J-55  
 WEIGHT: 24#  
 LENGTH: 7 jts. (293')  
 DEPTH LANDED: 303' GL  
 HOLE SIZE: 12-1/4"  
 CEMENT DATA: 140 sxs Premium cmt, est 4 bbls to surf.

PRODUCTION CASING

CSG SIZE: 5-1/2"  
 GRADE: J-55  
 WEIGHT: 15.5#  
 LENGTH: 140 jts. (6001')  
 HOLE SIZE: 7-7/8"  
 CEMENT DATA: 300 sxs Hibond mixed & 350 sxs thixotropic  
 CEMENT TOP AT:

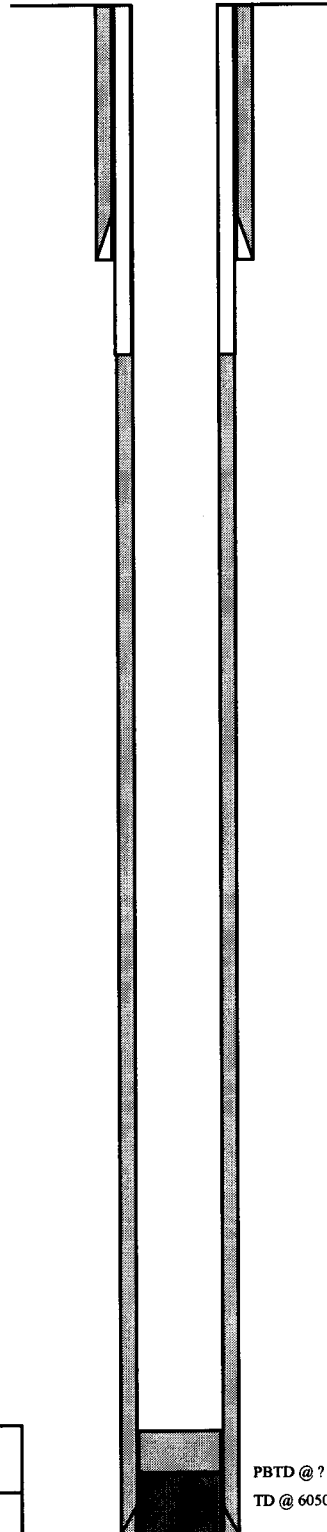
TUBING

SIZE/GRADE/WT.:  
 NO. OF JOINTS:  
 TUBING ANCHOR:  
 SEATING NIPPLE:  
 TOTAL STRING LENGTH:  
 SN LANDED AT:

SUCKER RODS

POLISHED ROD:  
 SUCKER RODS:  
 TOTAL ROD STRING LENGTH:  
 PUMP NUMBER:  
 PUMP SIZE:  
 STROKE LENGTH:  
 PUMP SPEED, SPM:  
 LOGS: DIGL/SP/GR/CAL (6018'-304')  
 DSN/SDL/GR (5990'-3000')

## Wellbore Diagram

FRAC JOBPERFORATION RECORD

PBTD @ ?  
 TD @ 6050'



Inland Resources Inc.

Odekirk Spring #3-36

660 FNL 1980 FWL

NENW Section 36-T8S-R17E

Uintah Co, Utah

API #43-047-33015; Lease #ML-44305

**UNICHEM**

A Division of BJ Services

P.O. Box 217  
Roosevelt, Utah 84066Office (801) 722-5066  
Fax (801) 722-5727

Attachment F

**WATER ANALYSIS REPORT**

Company INLAND Address \_\_\_\_\_ Date 01-14-98  
 Source Johnson Water Date Sampled \_\_\_\_\_ Analysis No. \_\_\_\_\_  
FRESH WATER

	Analysis	mg/l(ppm)	*Meg/l
1. PH	<u>7.0</u>		
2. H <sub>2</sub> S (Qualitative)	<u>0.5</u>		
3. Specific Gravity	<u>1.001</u>		
4. Dissolved Solids		<u>593</u>	
5. Alkalinity (CaCO <sub>3</sub> )		CO <sub>3</sub> <u>0</u>	+ 30 <u>0</u> CO <sub>3</sub>
6. Bicarbonate (HCO <sub>3</sub> )		HCO <sub>3</sub> <u>300</u>	+ 61 <u>5</u> HCO <sub>3</sub>
7. Hydroxyl (OH)		OH <u>0</u>	+ 17 <u>0</u> OH
8. Chlorides (Cl)		Cl <u>35</u>	+ 35.5 <u>1</u> Cl
9. Sulfates (SO <sub>4</sub> )		SO <sub>4</sub> <u>110</u>	+ 48 <u>2</u> SO <sub>4</sub>
10. Calcium (Ca)		Ca <u>44</u>	+ 20 <u>2</u> Ca
11. Magnesium (Mg)		MG <u>22</u>	+ 12.2 <u>2</u> Mg
12. Total Hardness (CaCO <sub>3</sub> )		<u>200</u>	
13. Total Iron (Fe)		<u>2.2</u>	
14. Manganese			
15. Phosphate Residuals			

\*Milli equivalents per liter

**PROBABLE MINERAL COMPOSITION**

	Compound	Equlv. Wt.	X	Meg/l	=	Mg/l
	Ca(HCO <sub>3</sub> ) <sub>2</sub>	81.04	<u>2</u>			<u>162</u>
	CaSO <sub>4</sub>	68.07				
	CaCl <sub>2</sub>	55.50				
	Mg(HCO <sub>3</sub> ) <sub>2</sub>	73.17	<u>2</u>			<u>146</u>
	MgSO <sub>4</sub>	60.19				
	MgCl <sub>2</sub>	47.62				
	NaHCO <sub>3</sub>	64.00	<u>1</u>			<u>84</u>
	Na <sub>2</sub> SO <sub>4</sub>	71.03	<u>2</u>			<u>142</u>
	NaCl	58.46	<u>1</u>			<u>59</u>

Saturation Values	Distilled Water 20°C
CaCO <sub>3</sub>	13 Mg/l
CaSO <sub>4</sub> · 2H <sub>2</sub> O	2,090 Mg/l
MgCO <sub>3</sub>	103 Mg/l

REMARKS \_\_\_\_\_

# Water Analysis, Scaling Tendency, and Compatibility Evaluation

Company : INLAND  
Field / Lease : Monument Butte  
Service Engineer : John Pope

A = Johnson Water  
B = Pariette Federal 9-23

Chemical Component	100 % A	90% A:10% B	80%A:20% B	70%A:30% B	60%A:40% B	50%A:50% B	40%A:60% B	30%A:70% B	20%A:80% B	10%A:90% B	100% B
Chloride (Cl) mg/l	2,800	2,780	2,780	2,740	2,720	2,700	2,680	2,660	2,640	2,620	2,600
Sulfate (SO <sub>4</sub> ) mg/l	455	420	386	351	316	282	247	212	177	143	108
Carbonate (CO <sub>3</sub> ) mg/l	0	12	24	36	48	60	72	84	96	108	120
Bicarbonate (HCO <sub>3</sub> ) mg	268	314	361	407	454	500	546	593	639	686	732
Calcium (Ca) mg/l	232	237	242	246	251	256	261	266	270	275	280
Magnesium (Mg) mg/l	131	128	124	121	117	114	111	107	104	100	97
Iron (Fe) mg/l	3.0	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6.0
Barium (Ba) mg/l	0	0	0	0	0	0	0	0	0	0	0
Strontium (Sr) mg/l	0	0	0	0	0	0	0	0	0	0	0
Sodium (Na) mg/l	1,621	1,619	1,617	1,615	1,613	1,611	1,609	1,607	1,605	1,603	1,601
Ionic Strength	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Dissolved Solids (TDS)	5,510	5,513	5,516	5,520	5,523	5,527	5,530	5,534	5,537	5,540	5,544
Specific Gravity @ 60F	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005	1.005
Temperature (F)	100	100	100	100	100	100	100	100	100	100	100
Is (TOMSON-ODDO)	0.08	0.31	0.54	0.76	0.98	1.19	1.39	1.59	1.78	1.98	2.17
Pressure (psia)	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7
Field pH	6.93	7.08	7.23	7.38	7.53	7.69	7.84	7.99	8.14	8.29	8.44
% CO <sub>2</sub> (Mole %)	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03

Scaling Tendency (Pounds per Thousand BBLs of Scale Which Should Form)

CaCO <sub>3</sub> (Tomson-Oddo)	8.9	58.1	97.7	133.8	163.7	187.2	204.8	217.7	227.3	234.9	241.1
BaSO <sub>4</sub> (Tomson)	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
CaSO <sub>4</sub> (Tomson)	-1121.8	-1128.3	-1130.9	-1135.5	-1140.2	-1145.0	-1149.8	-1154.7	-1159.6	-1164.6	-1169.6
SrSO <sub>4</sub> (Tomson)	-28.8	-30.7	-32.8	-35.1	-37.7	-40.7	-44.1	-47.9	-52.2	-57.1	-62.7

Attachment G

**Balcron Monument Federal #34-25  
Proposed Maximum Injection Pressure**

Frac Interval (feet)		Avg. Depth (feet)	ISIP (psi)	Frac Gradient (psi/ft)	Pmax
Top	Bottom				
5257	5283	5270	1550	0.73	1550
				Minimum	1550

Calculation of Maximum Surface Injection Pressure

$$P_{max} = (\text{Frac Grad} - (0.433 \times 1.005)) \times \text{Depth of Top Perf}$$

where pressure gradient for the fresh water is .433 psi/ft and  
specific gravity of the injected water is 1.005.

Frac Gradient is obtained from the service company's frac summary report.



EQUITABLE RESOURCES  
ENERGY COMPANY  
BALCRON OIL DIVISION  
1601 Lewis Avenue  
P.O. Box 21017  
Billings, MT 59104-1017  
(406) 259-1860

# Attachment G-1 TREATMENT REPORT

DATE OF TREATMENT: 10-20-95

Well Name MINUMENT FED. 311-25 Sec. 25 TWN. 4S RNG. 17E  
Field PARIETTE DBW County LINCOLN State MT  
Formation: GREEN RIVER  
Perforations: 5257-68, 5271-83

Treatment Type: SAND FRAC Total Number of Holes: 92  
Treatment Company: BJ SERVICE SAND CHARACTERISTICS

CALC. TOTAL	VOLUME		FLUID	CONC.			SIZE	SAND VOLUME	
	SLURRY BBLs	CLEAN GAL		# / GAL	BPM	PSI		CALC.	ACTUAL
110	110	4650	2% KCL WATER (PAD)	0	30.0	1500	+	#	#
150	150	42	"	2	31.0	1550	20/40	3200 #	4120 #
—	243	169	"	4	35.0	1410	20/40	24000 #	24777 #
465	465	169	"	5	34.7	1450	20/40	24000 #	25000 #
524	690	233	"	6	38.5	1430	16/30	46200 #	45920 #
105	837	160	"	7	37.3	1430	16/30	35602 #	36800 #
963	103	124	" (FLUSH)	0	39.0	2000	+	#	#
							1	#	#
							1	#	#
							1	#	#

TOTAL FLUID PUMPED: \_\_\_\_\_ gal. \_\_\_\_\_ % Acid

\_\_\_\_\_ gal. 2% KCL WATER Fluid

TOTAL SAND VOLUME: \_\_\_\_\_ lbs. 20140 sand

\_\_\_\_\_ lbs. 16130 sand

\_\_\_\_\_ lbs. 1 sand

Flushed well with. \_\_\_\_\_ gal. of 2% KCL WATER

\_\_\_\_\_ ball sealers were pumped. Was ball action seen? \_\_\_\_\_

Barrels of Load to Recover \_\_\_\_\_ BLTR.

Avg. Treating Pressure = \_\_\_\_\_ psi, max = 2000 psi, min = 1410 psi.

Avg. Treating Rate = \_\_\_\_\_ bpm, max = 39.0 bpm, min = 30.0 bpm.

ISIP = 1550 psi, 5 min. = 1300 psi, 10 min. = 1250 psi, 15 min. = 1200 psi.

Well will be shut in for. 1 1/2 hours before bringing back fluid. 30 min. 1030 psi

REMARKS: 6 BBL. TL LOAD HERE

FRAC. GRADIENT .734 Wellsite Supervisor: [Signature]

## **ATTACHMENT H**

### **WORK PROCEDURE FOR PLUGGING AND ABANDONMENT**

1.     **Plug #1**            **Set 176' plug from 5157'-5333' with 30 sxs Class "G" cement.**
2.     **Plug #2**            **Set 200' plug from 2000'-2200' with 30 sxs Class "G" cement.**
3.     **Plug #3**            **Set 100' plug from 249'-349' (50' on either side of casing shoe) with 15 sxs Class "G" cement.**
4.     **Plug #4**            **Set 50' plug from surface with 10 sxs Class "G" cement.**
5.                        **Pump 10 sxs Class "G" cement down the 8-5/8" x 5-1/2" annulus to cement 299' to surface.**

**The approximate cost to plug and abandon this well is \$18,000.**



Elev.GR - 5007.60' GL  
Elev.KB - 5017.60' KB (10' KB)

**PROPOSED P&A  
WELLBORE DIAGRAM**

Attachment H-1

**Balcron Monument Federal #34-25**  
Monument Butte ( Humpback Unit )  
Lease #U-67845  
SW SE Section 25, T8S, R17E  
800' FSL, 2100' FEL  
Uintah County, Utah

DATE : 7/23/96 DZ

**SURFACE CASING**

CSG SIZE: 8-5/8"  
GRADE: J-55  
WEIGHT: 24#  
LENGTH: 288.77'  
DEPTH LANDED: 298.77' KB  
HOLE SIZE: 12-1/4"  
CEMENT DATA: BJ Services: 190 sks  
"G", 2% CACL<sub>2</sub>, 1/4#/sk  
Cello-Seal

**PRODUCTION CASING**

CSG SIZE: 5-1/2"  
GRADE: J-55  
WEIGHT: 15.5#  
LENGTH: 6098.14'  
DEPTH LANDED: 6108.14' KB  
HOLE SIZE: 7-7/8"  
CEMENT DATA: BJ Services: 220 sks  
Super "G", 47#/sk G,  
20#/sk POZ A, 17#/sk CSE,  
3% salt, 2% gel, 2#/sk Hi-Seal,  
Tail w/395 sks 50/50 POZ,  
2% gel, 1/4#/sk Cello-Seal,  
2#/sk Hi-Seal2.

CEMENT TOP AT: 1730' KB

10 sx Class "G" cmt, 50' to surface

10 sx Class "G" ccement down the 8-5/8"x5-1/2" annulus  
to cement 299' to surface

15 sx Class "G" cmt, 249'-349'

30 sx Class "G" cmt, 2000'-2200'

30 sx Class "G" cmt, 5157'-5333'

5257 - 5268' G-1L  
5271' - 5283' G-1L

PBTD @ 6055' KB  
TD @ 6175' KB

BEFORE THE DIVISION OF OIL, GAS AND MINING  
DEPARTMENT OF NATURAL RESOURCES  
STATE OF UTAH

---ooOoo---

IN THE MATTER OF THE	:	NOTICE OF AGENCY
APPLICATION OF INLAND	:	ACTION
PRODUCTION COMPANY FOR	:	
ADMINISTRATIVE APPROVAL OF	:	CAUSE NO. UIC-216
THE BALCRON MONUMENT	:	
FEDERAL 34-25 WELL LOCATED IN	:	
SECTION 25, TOWNSHIP 8 SOUTH,	:	
RANGE 17 EAST, S.L.M., UINTAH	:	
COUNTY, UTAH, AS A CLASS II	:	
INJECTION WELL	:	

---ooOoo---

THE STATE OF UTAH TO ALL PERSONS INTERESTED IN THE ABOVE ENTITLED  
MATTER.

Notice is hereby given that the Division of Oil, Gas and Mining (the "Division") is commencing an informal adjudicative proceeding to consider the application of Inland Production Company for administrative approval of the Balcron Monument Federal 34-25 well, located in Section 25, Township 8 South, Range 17 East, S.L.M., Uintah County, Utah, for conversion to a Class II injection well. The proceeding will be conducted in accordance with Utah Admin. R.649-10, Administrative Procedures.

The Green River Formation will be selectively perforated for water injection. The maximum injection pressure and rate will be determined based on fracture gradient information submitted by Inland Production Company.

Any person desiring to object to the application or otherwise intervene in the proceeding, must file a written protest or notice of intervention with the Division within fifteen days following publication of this notice. If such a protest or notice of intervention is received, a hearing will be scheduled before the Board of Oil, Gas and Mining. Protestants and/or intervenors should be prepared to demonstrate at the hearing how this matter affects their interests.

Dated this 9th day of June 1998.

STATE OF UTAH  
DIVISION OF OIL, GAS & MINING

  
\_\_\_\_\_  
John R. Baza  
Associate Director



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor

Ted Stewart  
Executive Director

Lowell P. Braxton  
Division Director

1594 West North Temple, Suite 1210

PO Box 145801

Salt Lake City, Utah 84114-5801

801-538-5340

801-359-3940 (Fax)

801-538-7223 (TDD)

June 9, 1998

Uintah Basin Standard  
268 South 200 East  
Roosevelt, Utah 84066-9998

Re: Notice of Agency Action - Cause No. UIC-216

Gentlemen:

Enclosed is a copy of the referenced Notice of Agency Action. Please publish the Notice, once only, as soon as possible. Please send proof of publication and billing to the Division of Oil, Gas and Mining, 1594 West North Temple, Suite 1210, P.O. Box 145801, Salt Lake City, Utah 84114-5801.

Sincerely,

Larraine Platt  
Secretary

Enclosure



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor

Ted Stewart  
Executive Director

Lowell P. Braxton  
Division Director

1594 West North Temple, Suite 1210

PO Box 145801

Salt Lake City, Utah 84114-5801

801-538-5340

801-359-3940 (Fax)

801-538-7223 (TDD)

June 9, 1998

Newspaper Agency Corporation  
Legal Advertising  
PO Box 45838  
Salt Lake City, Utah 84145

Re: Notice of Agency Action - Cause No. UIC-216

Gentlemen:

Enclosed is a copy of the referenced Notice of Agency Action. Please publish the Notice, once only, as soon as possible. Please send proof of publication and billing to the Division of Oil, Gas and Mining, 1594 West North Temple, Suite 1210, P.O. Box 145801, Salt Lake City, Utah 84114-5801.

Sincerely,

Lorraine Platt  
Secretary

Enclosure

**Inland Production Company  
Balcron Monument Federal 34-25 Well  
Cause No. UIC-216**

Publication Notices were sent to the following:

Inland Production Company  
410 17th Street, Suite 700  
Denver, Colorado 80202

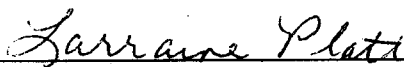
Newspaper Agency Corporation  
Legal Advertising  
P.O. Box 45838  
Salt Lake City, Utah 84145

Uintah Basin Standard  
268 South 200 East  
Roosevelt, Utah 84066

Vernal District Office  
Bureau of Land Management  
170 South 500 East  
Vernal, Utah 84078

U.S. Environmental Protection Agency  
Region VIII  
Attn. Dan Jackson  
999 18th Street  
Denver, Colorado 80202-2466

School & Institutional Trust Lands Administration  
Attn: Jim Cooper  
675 East 500 South  
Salt Lake City, Utah 84102

  
\_\_\_\_\_  
Lorraine Platt  
Secretary  
June 9, 1998

## DIRECTOR EASTERN HEALTH CENTER -

The College of Eastern Utah has re-opened its position for Eastern Utah Area Health Center (AHEC). The position is determined by renewal of the grant responsible for the establishment of the program in the counties in Eastern Utah. The Director will work with the Utah AHEC Advisory Board and act as Executive Director to manage the Center Budget and federal grants; supervise a staff of at least six positions; provide continuing education opportunities when appropriate; serve as the Eastern Utah AHEC office and the AHEC Program state and local agencies, educational facilities, government entities; assures that on-going continuing education for area health career programs in public schools within the service area and occasional travel headquarters for meetings is required. Qualifications: Master's degree preferred in one of the following: Education, Nursing, Social or Behavioral Sciences. Minimum four years of experience in a health-related position; minimum four years paid managerial experience supervising staff; or equivalent governing committee; grant writing to provide examples). The salary range is Professional (\$49,424). Deadline for applications for the position is June 1, 1984. Personnel Office, College of Eastern Utah, 451 E. 84501, Phone (435) 637-2120, ext 5240, e-mail: application form. three current letters of recommendation.

**THE  
NO  
FO  
CALL**  
*For J*



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

1594 West North Temple, Suite 1210

PO Box 145801

Salt Lake City, Utah 84114-5801

801-538-5340

801-359-3940 (Fax)

801-538-7223 (TDD)

Michael O. Leavitt  
Governor

Lowell P. Braxton  
Division Director

July 21, 1998

Inland Production Company  
Suite 700  
410 Seventeenth Street  
Denver, Colorado 80202

Re: Humpback Unit Well: Balcron Monument Federal #34-25, Section 25, Township 8 South, Range 17 East, Duchesne County, Utah

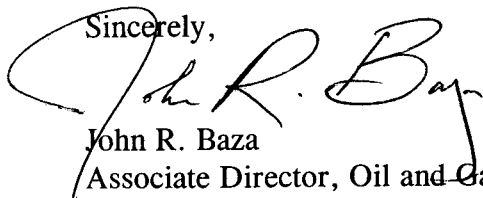
Gentlemen:

Pursuant to Utah Admin. Code R649-5-3-3, the Division of Oil, Gas and Mining (the "Division") issues its administrative approval for conversion of the referenced wells to Class II injection wells. Accordingly, the following stipulations shall apply for full compliance with this approval:

1. Compliance with all applicable requirements for the operation, maintenance and reporting for Underground Injection Control ("UIC") Class II injection wells pursuant to Utah Admin. Code R649-1 et seq.
2. Conformance with all conditions and requirements of the complete application submitted by Inland Production Company.
3. A casing\tubing pressure test shall be conducted prior to commencing injection.

If you have any questions regarding this approval or the necessary requirements, please contact Brad Hill or Dan Jarvis at this office.

Sincerely,



John R. Baza  
Associate Director, Oil and Gas

cc: Dan Jackson, Environmental Protection Agency  
Bureau of Land Management, Vernal

DIVISION OF OIL, GAS AND MINING  
UNDERGROUND INJECTION CONTROL PROGRAM

**PERMIT  
STATEMENT OF BASIS**

**Applicant:** Inland Production Company      **Well:** Balcron Monument Federal #34-25

**Location:** 25/8S/17E      **API:** 43-047-32670

**Ownership Issues:** The proposed well is located on Federal land. The well is located in the Humpback Unit. Lands in the one-half mile radius of the well are administered by the BLM and the State of Utah (SITLA). The Federal Government is the mineral owner within the area of review. Inland, Wildrose Resources and various other individuals hold the leases in the unit. Inland has provided a list of all surface, mineral and lease holders in the half-mile radius. Inland will be the operator of the Humpback Unit. Inland has submitted an affidavit stating that all owners and interest owners have been notified of their intent.

**Well Integrity:** The proposed well has surface casing set at 289 feet and has a cement top at the surface. A 5 ½ inch production casing is set at 6108 feet and has a cement top at 1730 feet. A cement bond log verifies adequate bond well above the injection zone. A 2 7/8 inch tubing with a packer will be set at 5210 feet. A mechanical integrity test will be run on the well prior to injection. There are 8 producing wells in the area of review. All of the wells have adequate casing and cement. No corrective action will be required.

**Ground Water Protection:** According to Technical Publication No. 92 the base of moderately saline water is at a depth of approximately 100 feet. Injection shall be limited to the interval between 5257 feet and 5283 feet in the Green River Formation. Information submitted by Inland indicates that the fracture gradient for the #34-25 well is .73 psi/ft., which was the lowest reported fracture gradient for the injection zone. The resulting minimum fracture pressure for the proposed injection interval is 1550 psig. The requested maximum pressure is 1550 psig. The anticipated average injection pressure is 1100 psig. Injection at this pressure should not initiate any new fractures or propagate existing fractures in the adjacent confining intervals. Any ground water present should be adequately protected.

**Balcron Monument Federal #34-25**  
**page 2**

**Oil/Gas& Other Mineral Resources Protection:** The Board of Oil, Gas & Mining approved the Humpback Unit on January 1, 1997. Correlative rights issues were addressed at this time. Previous reviews in this area indicate that other mineral resources in the area have been protected or are not at issue.

**Bonding:** Bonded with the BLM

**Actions Taken and Further Approvals Needed:** A notice of agency action has been sent to the Salt Lake Tribune and the Uinta Basin Standard. A casing/tubing pressure test will be required prior to injection. It is recommended that Administrative approval of this application be granted.

Note: Applicable technical publications concerning water resources in the general vicinity of this project have been reviewed and taken into consideration during the permit review process.

Reviewer(s): Brad Hill Date: 7/21/98

## FAX COVER SHEET



410 17th Street, Suite 700  
Denver, CO 80202

Phone: 303-893-0102, Fax: 303-382-4454

DATE: June 29, 1998

TO: Brad Hill

COMPANY: State of Utah

FAX NUMBER: 801-359-3940

FROM: Debbie Knight

NUMBER OF PAGES: 1 INCLUDING COVER SHEET

Per your request, regarding packer/anchor settings for wells in the Humpback Unit:

Well Name

Packer/Anchor Depth

Monument Federal #12-25

5208.43'

Monument Federal #21-25

5289.93'

Monument Federal #23-25

5119.34'

Monument Federal #32-25

5094.61'

Monument Federal #34-25

5209.79'

Let me know if you need additional info.

Thanks  
Debbie

If you do not receive all pages or there is a problem with this transmission, please call 303-382-4441.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to deepen or reentry a different reservoir.  
Use "APPLICATION FOR PERMIT -" for such proposals

5. Lease Designation and Serial No.

**U-67845**

6. If Indian, Allottee or Tribe Name

**NA**

7. If Unit or CA, Agreement Designation

**HUMBACK (GR RVR)**

8. Well Name and No.

**BALCRON MONUMENT FEDERAL 34-25**

9. API Well No.

**43-047-32670**

10. Field and Pool, or Exploratory Area

**PARIETTE DRAW**

11. County or Parish, State

**UINTAH COUNTY, UTAH**

**SUBMIT IN TRIPLICATE**

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

**INLAND PRODUCTION COMPANY**

3. Address and Telephone No.

**475 17TH STREET, SUITE 1500, DENVER, COLORADO 80202 (303) 292-0900**

4. Location of Well (Footage, Sec., T., R., m., or Survey Description)

**0800 FSL 2100 FEL SW/SE Section 25, T08S R17E**

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

**TYPE OF SUBMISSION**

☐ Notice of Intent  
☒ Subsequent Report  
☐ Final Abandonment Notice

**TYPE OF ACTION**

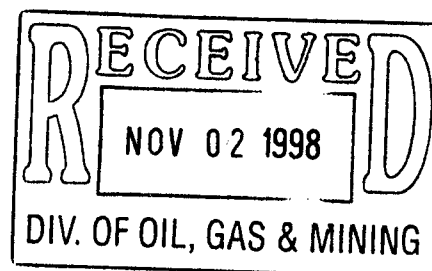
☐ Abandonment  
☐ Recompletion  
☐ Plugging Back  
☐ Casing Repair  
☐ Altering Casing  
☒ Other **Site Security**

☐ Change of Plans  
☐ New Construction  
☐ Non-Routine Fracturing  
☐ Water Shut-Off  
☐ Conversion to Injection  
☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

Attached please find the site security diagram for the above referenced well.



14. I hereby certify that the foregoing is true and correct

Signed

*Debbie E. Knight*

Title

**Manager, Regulatory Compliance**

Date

**10/30/98**

(This space for Federal or State office use)

Approved by

Title

Date

Conditions of approval, if any:

**CC: UTAH DOGM**

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

# Inland Production Company Site Facility Diagram

Monument Federal 34-25

SW/SE Sec. 25, T8S, 17E

Uintah County

May 12, 1998

Site Security Plan is held at the Roosevelt Office, Roosevelt Utah

## Production Phase:

- 1) Valves 1 and 3 sealed closed
- 2) Valves 2 and 4 sealed open

## Sales Phase:

- 1) Valves 1, 2, 4, 5 sealed closed
- 2) Valves 1 open

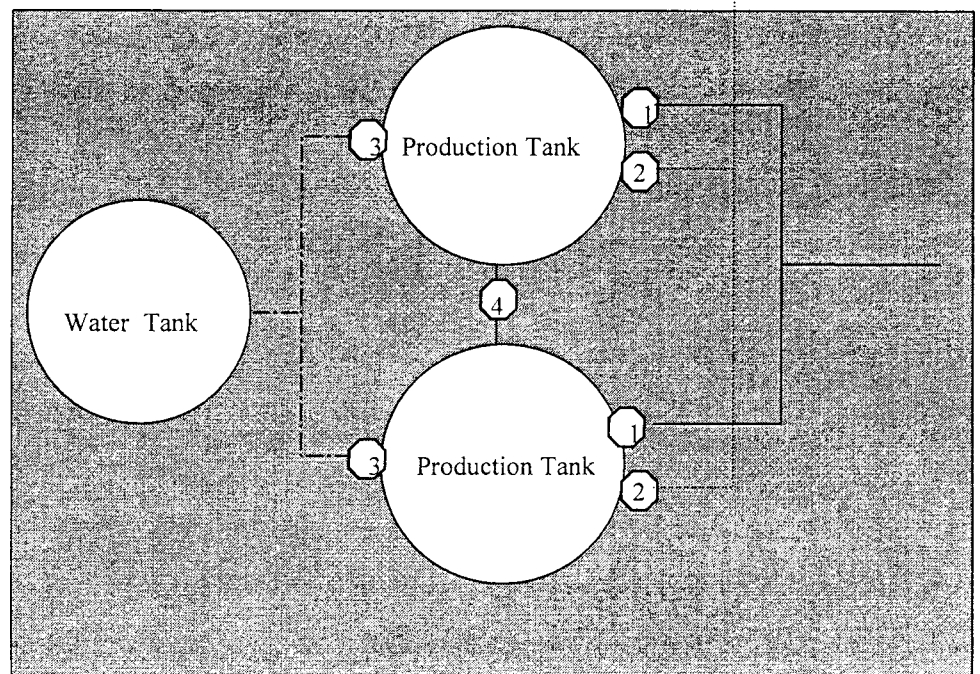
## Draining Phase:

- 1) Valve 3 open

Diked Section

Gas Sales Meter

Pumping Unit



Emulsion Line .....

Load Line \_\_\_\_\_

Water Line - - - - -

Gas Sales - - - - -

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-01  
Expires: March 31, 1993

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to deepen or reentry a different reservoir.  
Use "APPLICATION FOR PERMIT -" for such proposals

5. Lease Designation and Serial No.

**U 67845**

6. If Indian, Allottee or Tribe Name

**NA**

7. If Unit or CA, Agreement Designation

**HUMPBACK (GPN RVR)**

8. Well Name and No.

**FALCRO MONUMENT FEDERAL 34-25**

9. API Well No.

**43-047-32670**

10. Field and Pool, or Exploratory Area

**PARIETTE DRAW**

11. County or Parish, State

**UINTAH COUNTY, UTAH**

**SUBMIT IN TRIPLICATE**

1. Type of Well

☐ Oil Well ☐ Gas Well ☒ Other

**Injection Well**

2. Name of Operator

**INLAND PRODUCTION COMPANY**

3. Address and Telephone No.

**RT 3 Box 3630 Myton Ut 84052, (435) 646-3721**

4. Location of Well (Footage, Sec., T., R., m., or Survey Description)

**0800 FSL 2100 FEL SW/SE Section 25, T08S R17E**

12. CHECK APPROPRIATE TYPE OF SUBMISSION BOX(es) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA TYPE OF ACTION

☐ Notice of Intent  
☒ Subsequent Report  
☐ Final Abandonment Notice

☐ Abandonment  
☐ Recompletion  
☐ Plugging Back  
☐ Casing Repair  
☐ Altering Casing  
☐ Other

☐ Change of Plans  
☐ New Construction  
☐ Non-Routine Fracturing  
☐ Water Shut-Off  
☒ Conversion to Injection  
☐ Dispose Water

(Note: Report results of multiple completion Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface location; and measured and true vertical depths for all markers and zones pertinent to this work.)

The subject well was converted from a producing to an injection well on 12/12/00. The rods and tubing anchor were removed and a packer was inserted in the bottom hole assembly at 5183'. On 12/13/00 Mr. Dan Jackson w/ EPA and Mr. Dennis Ingram with the State DOGM were contacted and gave approval to conduct a MIT on the casing -tubing annulus. On 12/13/00 the casing was pressured to 1060 psi with no loss of pressure charted in a 1/2 hour test. No governmental agencies were able to witness the test. The well is shut-in and waiting on permission to inject.

**RECEIVED**

**DEC 19 2000**

**DIVISION OF  
OIL, GAS AND MINING**

14. I hereby certify that the foregoing is true and correct.

Signed

*Krishna Russell*  
**Krishna Russell**

Title

**Production Clerk**

Date

**12/14/00**

(This space for Federal or State office use)

Approved by

Title

Date

Conditions of approval, if any:

**CC: UTAH DOGM**

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor

Kathleen Clarke  
Executive Director

Lowell P. Braxton  
Division Director

1594 West North Temple, Suite 1210

PO Box 145801

Salt Lake City, Utah 84114-5801

801-538-5340

801-359-3940 (Fax)

801-538-7223 (TDD)

B

**UNDERGROUND INJECTION CONTROL PERMIT**


**Cause No. UIC-216**

**Operator:** Inland Production Company  
**Well:** Balcron Monument Federal 34-25  
**Location:** Section 25, Township 8 South, Range 17 East  
**County:** Uintah  
**API No.:** 43-047-32670  
**Well Type:** Enhanced Recovery (waterflood)

**Stipulations of Permit Approval**

1. Approval for conversion to Injection Well issued on July 21, 1998.
2. Maximum Allowable Injection Pressure: 1550 psig
3. Maximum Allowable Injection Rate: (restricted by pressure limitation)
4. Injection Interval: Green River Formation (5257 feet - 5283 feet)

Approved by:

  
John R. Baza  
Associate Director, Oil And Gas

12/21/2000  
Date

cc: Dan Jackson Environmental Protection Agency  
Bureau of Land Management, Vernal  
Inland Production Company, Myton  
SITLA, Salt Lake City

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to deepen or reentry a different reservoir.  
Use "APPLICATION FOR PERMIT -" for such proposals

**SUBMIT IN TRIPLICATE**

1. Type of Well

☐ Oil Well ☐ Gas Well ☒ Other Injector

2. Name of Operator

**INLAND PRODUCTION COMPANY**

3. Address and Telephone No.

**Rt. 3 Box 3630, Myton Utah, 84052 435-646-3721**

4. Location of Well (Footage, Sec., T., R., m., or Survey Description)

**0800 FSL 2100 FEL SW/SE Section 25, T08S R17E**

5. Lease Designation and Serial No.

**U-67845**

6. If Indian, Allottee or Tribe Name

**NA**

7. If Unit or CA. Agreement Designation

**HUMBACK (GR RVR)**

8. Well Name and No.

**MON. FEDERAL 34-25**

9. API Well No.

**43-047-32670**

10. Field and Pool, or Exploratory Area

**PARIETTE DRAW**

11. County or Parish, State

**UINTAH COUNTY, UTAH**

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

☐ Notice of Intent  
☒ Subsequent Report  
☐ Final Abandonment Notice

TYPE OF ACTION

☐ Abandonment  
☐ Recompletion  
☐ Plugging Back  
☐ Casing Repair  
☐ Altering Casing  
☒ Other **Report of first injection**

☐ Change of Plans  
☐ New Construction  
☐ Non-Routine Fracturing  
☐ Water Shut-Off  
☐ Conversion to Injection  
☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

The above referenced well was put on injection at 11:30 a.m. on 2/15/01.

14. I hereby certify that the foregoing is true and correct

Signed

*Mandie Crozier*  
Mandie Crozier

Title

Permit Clerk

Date

2/16/01

CC: UTAH DOGM

(This space for Federal or State office use)

Approved by

Title

Date

Conditions of approval, if any:

## STATE OF UTAH

## DIVISION OF OIL, GAS, AND MINING

1. **SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.

Use "APPLICATION FOR PERMIT TO DRILL OR DEEPEN" form for such proposals.

OIL WELL ☐ GAS WELL ☐ OTHER ☒ **Injection Well**

2. NAME OF OPERATOR  
**INLAND PRODUCTION COMPANY**

3. ADDRESS AND TELEPHONE NUMBER  
**Rt. 3 Box 3630, Myton Utah 84052**  
**435-646-3721**

4. LOCATION OF WELL  
  
Footages **800 FSL 2100 FEL**  
  
QQ, SEC, T, R, M: **SW/SE Section 25, T08S R17E**

5. LEASE DESIGNATION AND SERIAL NO.  
**UTU-67845**

6. IF INDIAN, ALLOTTEE OR TRIBAL NAME  
  
**N/A**

7. UNIT AGREEMENT NAME  
  
**HUMPBAC**

8. WELL NAME and NUMBER  
**BALCRON MONUMENT FEDERAL 34-25-8-17**

9. API NUMBER  
**43-047-32670**

10. FIELD AND POOL, OR WILDCAT  
  
**PARIETTE DRAW**

COUNTY **UINTAH**  
STATE **UTAH**

11. **CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA**

**NOTICE OF INTENT:**  
(Submit in Duplicate)

- |  |   |
|--|---|
| <input type="checkbox"/> ABANDON                   | <input type="checkbox"/> NEW CONSTRUCTION     |
| <input type="checkbox"/> REPAIR CASING             | <input type="checkbox"/> PULL OR ALTER CASING |
| <input type="checkbox"/> CHANGE OF PLANS           | <input type="checkbox"/> RECOMPLETE           |
| <input type="checkbox"/> CONVERT TO INJECTION      | <input type="checkbox"/> REPERFORATE          |
| <input type="checkbox"/> FRACTURE TREAT OR ACIDIZE | <input type="checkbox"/> VENT OR FLARE        |
| <input type="checkbox"/> MULTIPLE COMPLETION       | <input type="checkbox"/> WATER SHUT OFF       |
| <input type="checkbox"/> OTHER _____               |   |

**SUBSEQUENT REPORT OF:**  
(Submit Original Form Only)

- |   |   |
|---|---|
| <input type="checkbox"/> ABANDON*                               | <input type="checkbox"/> NEW CONSTRUCTION     |
| <input type="checkbox"/> REPAIR CASING                          | <input type="checkbox"/> PULL OR ALTER CASING |
| <input type="checkbox"/> CHANGE OF PLANS                        | <input type="checkbox"/> RECOMPLETE           |
| <input type="checkbox"/> CONVERT TO INJECTION                   | <input type="checkbox"/> REPERFORATE          |
| <input type="checkbox"/> FRACTURE TREAT OR ACIDIZE              | <input type="checkbox"/> VENT OR FLARE        |
| <input checked="" type="checkbox"/> OTHER <b>Step Rate Test</b> |   |

DATE WORK COMPLETED \_\_\_\_\_

Report results of Multiple Completion and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

\*Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depth for all markers and zones pertinent to this work.)

A step rate test was conducted on the subject well on 7/5/01. Results from the test indicate that the fracture gradient is .610 psi/ft. Therefore, Inland is requesting that the MAIP be changed to 920 psi.

From 1550

13. NAME & SIGNATURE: Michael Guinn TITLE District Engineer DATE 7/18/01

(This space for State use only)

Approved by the  
Utah Division of  
Oil, Gas and Mining

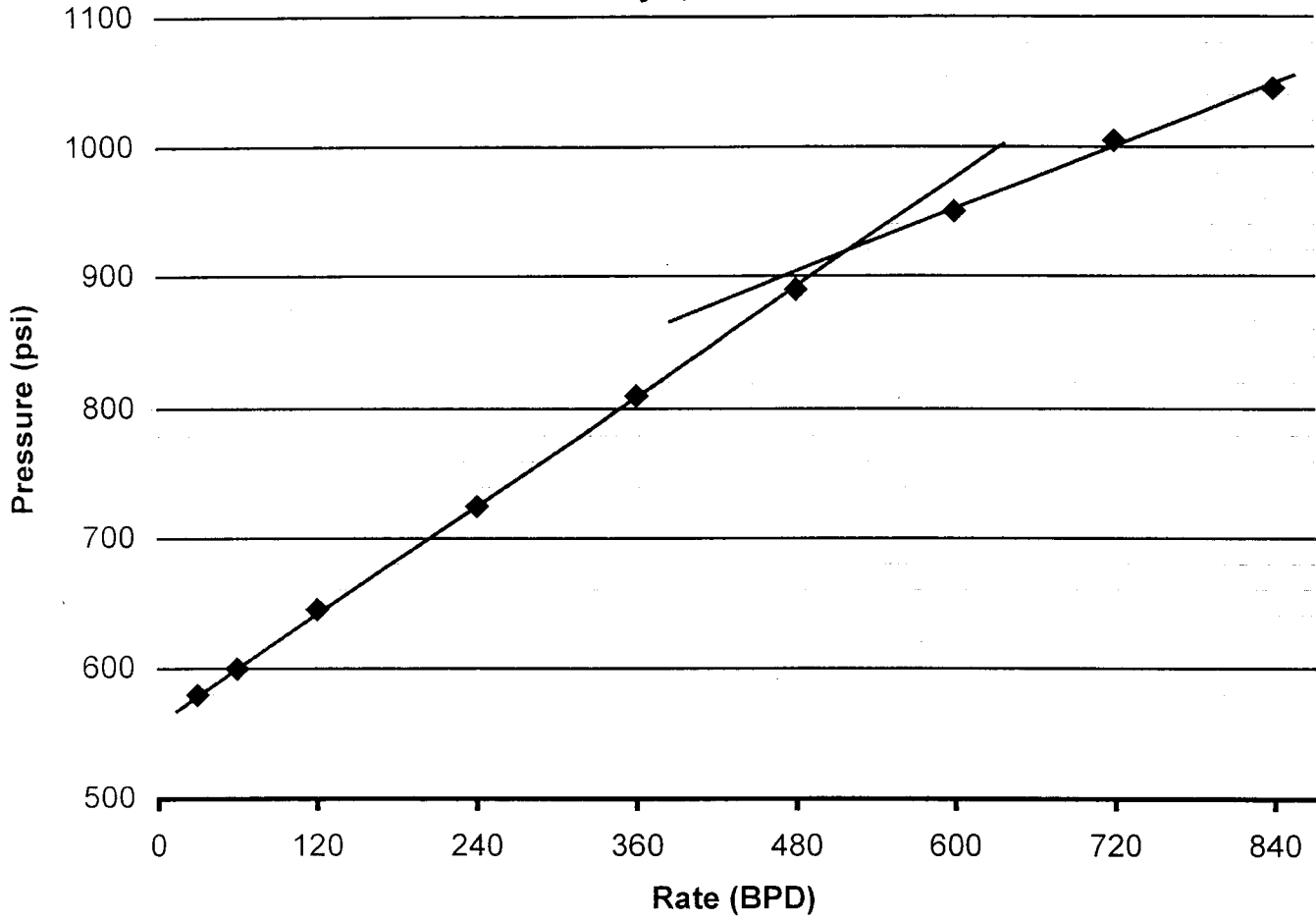
Date: 07-30-01By: [Signature]

Monument Federal 34-25-8-17

Humpback Unit

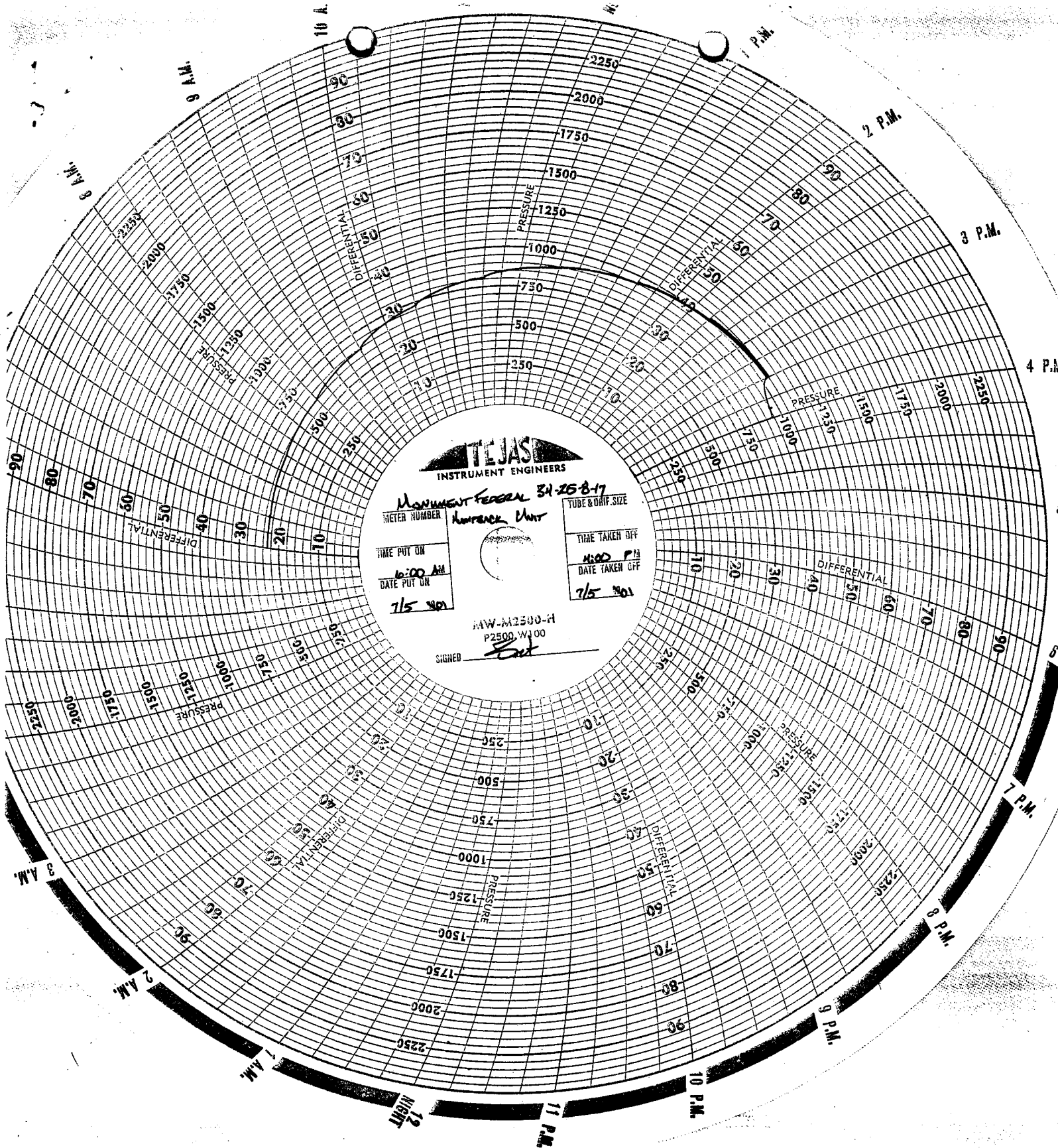
Step Rate Test

July 5, 2001



Start Pressure: 570 psi  
 Instantaneous Shut In Pressure (ISIP): 1035 psi  
 Top Perforation: 5257 feet  
 Fracture pressure (Pfp): 920 psi  
 FG: 0.610 psi/ft

Step	Rate(bpd)	Pressure(psi)
1	30	580
2	60	600
3	120	645
4	240	725
5	360	810
6	480	890
7	600	950
8	720	1005
9	840	1045



**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER:  
UTU67845

**SUNDRY NOTICES AND REPORTS ON WELLS**

not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:  
HUMBACK UNIT

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER ☐ Injection well

8. WELL NAME and NUMBER:

BALCRON MONUMENT FED 34-25

2. NAME OF OPERATOR:  
Inland Production Company

9. API NUMBER:

4304732670

3. ADDRESS OF OPERATOR:  
Route 3 Box 3630 CITY Myton STATE UT ZIP 84052

PHONE NUMBER  
435.646.3721

10. FIELD AND POOL, OR WILDCAT:  
Monument Butte

4. LOCATION OF WELL:  
FOOTAGES AT SURFACE: 0800 FSL 2100 FEL

COUNTY: Uintah

QTR/QTR. SECTION. TOWNSHIP. RANGE. MERIDIAN: SW/SE, 25, T8S, R17E

STATE: Utah

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate)  Approximate date work will  _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON	
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLAIR	
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only)  Date of Work Completion:  06/25/2004	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/STOP)	<input type="checkbox"/> WATER SHUT-OFF	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: - Step Rate Test	
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION		

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

A step rate test was conducted on the subject well on June 23, 2004. Results from the test indicate that the fracture gradient is .651 psi/ft. Therefore, Inland is requesting that the maximum allowable injection pressure (MAIP) be changed to 1135 psi.

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
FOR RECORD ONLY

NAME (PLEASE) Mike Guinn

TITLE Engineer

SIGNATURE

DATE June 25, 2004

(This space for State use only)

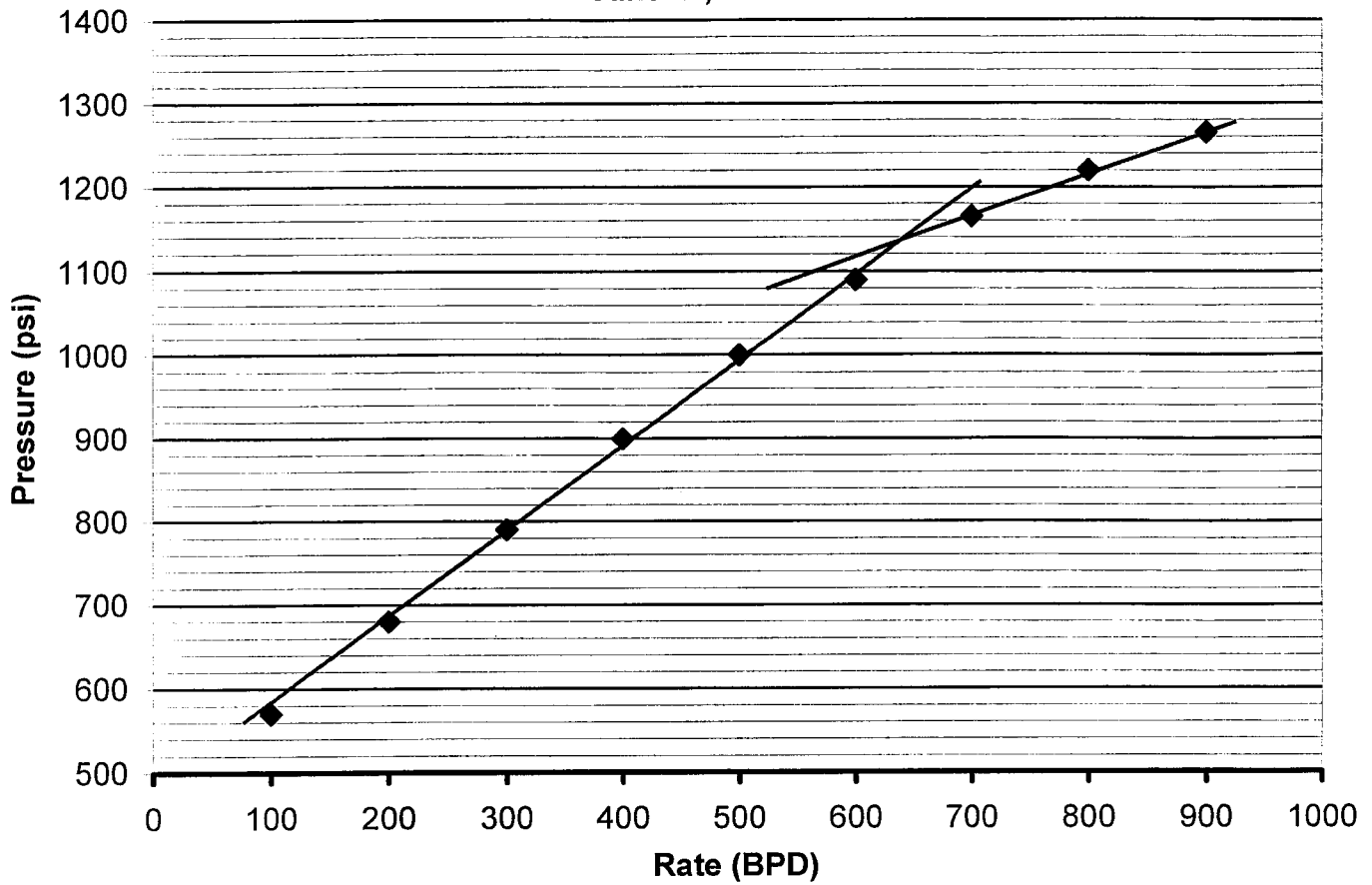
RECEIVED  
JUN 29 2004  
DIV. OF OIL, GAS & MINING

Monument Federal 34-25-8-17

Humpback Unit

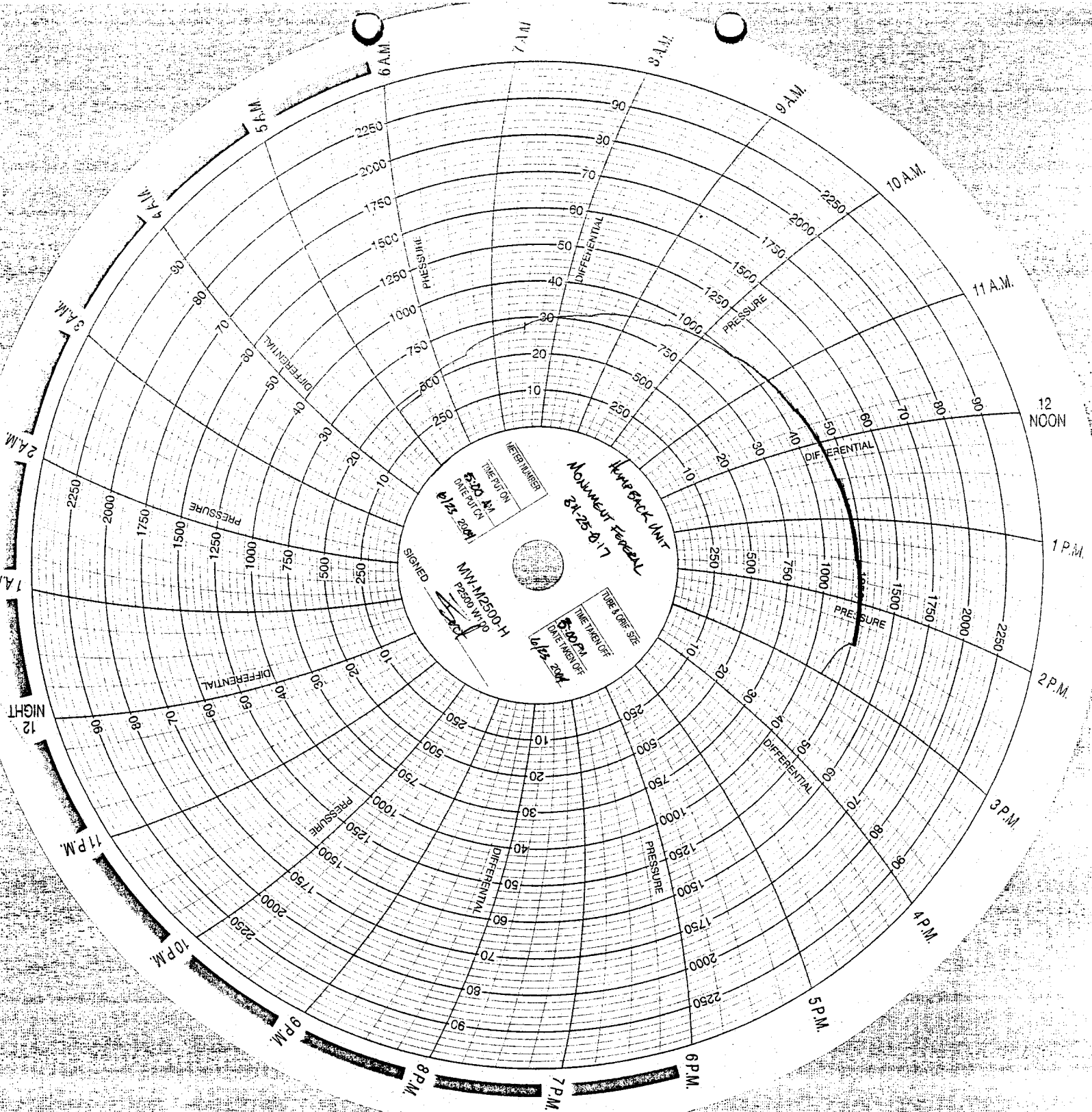
Step Rate Test

June 23, 2004



Start Pressure: 465 psi  
 Instantaneous Shut In Pressure (ISIP): 1235 psi  
 Top Perforation: 5257 feet  
 Fracture pressure (P<sub>fp</sub>): 1135 psi  
 FG: 0.651 psi/ft

Step	Rate(bpd)	Pressure(psi)
1	100	570
2	200	680
3	300	790
4	400	900
5	500	1000
6	600	1090
7	700	1165
8	800	1220
9	900	1265



**STATE OF UTAH**  
**DEPARTMENT OF NATURAL RESOURCES**  
**DIVISION OF OIL, GAS AND MINING**

UIC FORM 5

### TRANSFER OF AUTHORITY TO INJECT

Well Name and Number See Attached List		API Number
Location of Well		Field or Unit Name See Attached List
Footage :	County :	Lease Designation and Number
QQ, Section, Township, Range:	State : UTAH	

**EFFECTIVE DATE OF TRANSFER:** 9/1/2004

#### CURRENT OPERATOR

Company: Inland Production Company  
 Address: 1401 17th Street Suite 1000  
city Denver state Co zip 80202  
 Phone: (303) 893-0102  
 Comments:

Name: Brian Harris  
 Signature: *Brian Harris*  
 Title: Engineering Tech.  
 Date: 9/15/2004

#### NEW OPERATOR

Company: Newfield Production Company  
 Address: 1401 17th Street Suite 1000  
city Denver state Co zip 80202  
 Phone: \_\_\_\_\_  
 Comments:

Name: Brian Harris  
 Signature: *Brian Harris*  
 Title: Engineering Tech.  
 Date: 9/15/2004

(This space for State use only)

Transfer approved by: *A. Hunt*  
 Title: *Perk. Services Manager*

Approval Date: *9-20-04*

Comments: *Note: Indian Country wells will require EPA approval.*

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**SEP 20 2004**

DIV. OF OIL, GAS & MINING

**OPERATOR CHANGE WORKSHEET****ROUTING**

1. GLH

2. CDW

3. FILE

Change of Operator (Well Sold)

Designation of Agent/Operator

**X Operator Name Change****Merger**

The operator of the well(s) listed below has changed, effective:

**9/1/2004**

**FROM: (Old Operator):**  
 N5160-Inland Production Company  
 Route 3 Box 3630  
 Myton, UT 84052  
 Phone: 1-(435) 646-3721

**TO: ( New Operator):**  
 N2695-Newfield Production Company  
 Route 3 Box 3630  
 Myton, UT 84052  
 Phone: 1-(435) 646-3721

**CA No.****Unit:****HUMPBAC (GREEN RIVER)****WELL(S)**

NAME	SEC	TWN	RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
PARIETTE DRAW FED 9-23	23	080S	170E	4304731543	12053	Federal	WI	A
PARIETTE DRAW FED 8-23	23	080S	170E	4304732676	12053	Federal	OW	P
PARIETTE FED 34-24	24	080S	170E	4304732506	12053	Federal	WI	A
PARIETTE FED 13-24	24	080S	170E	4304732546	12053	Federal	OW	P
PARIETTE FED 14-24	24	080S	170E	4304732645	12053	Federal	WI	A
PARIETTE FED 24-24	24	080S	170E	4304732646	12053	Federal	OW	P
PARIETTE FED 23-24	24	080S	170E	4304732710	12053	Federal	WI	A
PARIETTE FED 12-24	24	080S	170E	4304732713	12053	Federal	WI	A
FEDERAL 22-25	25	080S	170E	4304732008	12053	Federal	OW	P
MONUMENT FED 11-25	25	080S	170E	4304732455	12053	Federal	OW	P
MON FED 32-25	25	080S	170E	4304732524	12053	Federal	WI	A
BALCRON MON FED 33-25	25	080S	170E	4304732525	12053	Federal	OW	P
MON FED 12-25	25	080S	170E	4304732526	12053	Federal	WI	A
BALCRON MON FED 21-25	25	080S	170E	4304732528	12053	Federal	WI	A
MONUMENT FED 23-25	25	080S	170E	4304732529	12053	Federal	WI	A
MONUMENT FED 31-25	25	080S	170E	4304732530	12053	Federal	OW	P
BALCRON MON FED 24-25	25	080S	170E	4304732669	12053	Federal	OW	P
BALCRON MON FED 34-25	25	080S	170E	4304732670	12053	Federal	WI	A
HUMPBAC U 1A-26-8-17	26	080S	170E	4304734160	12053	Federal	OW	P
HUMPBAC U 8-26-8-17	26	080S	170E	4304734161	12053	Federal	OW	P

**OPERATOR CHANGES DOCUMENTATION**

Enter date after each listed item is completed

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 9/15/20042. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 9/15/20043. The new company was checked on the **Department of Commerce, Division of Corporations Database** on: 2/23/20054. Is the new operator registered in the State of Utah: YES Business Number: 755627-01435. If **NO**, the operator was contacted on:

6a. (R649-9-2) Waste Management Plan has been received on: IN PLACE  
6b. Inspections of LA PA state/fee well sites complete on: waived

7. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM BIA

8. **Federal and Indian Units:**  
The BLM or BIA has approved the successor of unit operator for wells listed on: n/a

9. **Federal and Indian Communization Agreements ("CA"):**  
The BLM or BIA has approved the operator for all wells listed within a CA on: na/

10. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, Transfer of Authority to Inject, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: 2/23/2005

**DATA ENTRY:**

1. Changes entered in the Oil and Gas Database on: 2/28/2005  
2. Changes have been entered on the Monthly Operator Change Spread Sheet on: 2/28/2005  
3. Bond information entered in RBDMS on: 2/28/2005  
4. Fee/State wells attached to bond in RBDMS on: 2/28/2005  
5. Injection Projects to new operator in RBDMS on: 2/28/2005  
6. Receipt of Acceptance of Drilling Procedures for APD/New on: waived

**FEDERAL WELL(S) BOND VERIFICATION:**

1. Federal well(s) covered by Bond Number: UT 0056

**INDIAN WELL(S) BOND VERIFICATION:**

1. Indian well(s) covered by Bond Number: 61BSBDH2912

**FEE & STATE WELL(S) BOND VERIFICATION:**

1. (R649-3-1) The NEW operator of any fee well(s) listed covered by Bond Number 61BSBDH2919  
2. The FORMER operator has requested a release of liability from their bond on: n/a\*  
The Division sent response by letter on: n/a

**LEASE INTEREST OWNER NOTIFICATION:**

3. (R649-2-10) The FORMER operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: n/a

**COMMENTS:**

\*Bond rider changed operator name from Inland Production Company to Newfield Production Company - received 2/23/05



## Office of the Secretary of State

The undersigned, as Secretary of State of Texas, does hereby certify that the attached is a true and correct copy of each document on file in this office as described below:

Newfield Production Company  
Filing Number: 41530400

Articles of Amendment

September 02, 2004

In testimony whereof, I have hereunto signed my name officially and caused to be impressed hereon the Seal of State at my office in Austin, Texas on September 10, 2004.



A handwritten signature in black ink, appearing to read "G. Connor".

Secretary of State

ARTICLES OF AMENDMENT  
TO THE  
ARTICLES OF INCORPORATION  
OF  
INLAND PRODUCTION COMPANY

FILED  
In the Office of the  
Secretary of State of Texas  
SEP 02 2004  
Corporations Section

Pursuant to the provisions of Article 4.04 of the Texas Business Corporation Act (the "TBCA"), the undersigned corporation adopts the following articles of amendment to the articles of incorporation:

ARTICLE 1 – Name

The name of the corporation is Inland Production Company.

ARTICLE 2 – Amended Name

The following amendment to the Articles of Incorporation was approved by the Board of Directors and adopted by the shareholders of the corporation on August 27, 2004.

The amendment alters or changes Article One of the Articles of Incorporation to change the name of the corporation so that, as amended, Article One shall read in its entirety as follows:

"ARTICLE ONE – The name of the corporation is Newfield Production Company."

ARTICLE 3 – Effective Date of Filing

This document will become effective upon filing.

The holder of all of the shares outstanding and entitled to vote on said amendment has signed a consent in writing pursuant to Article 9.10 of the TBCA, adopting said amendment, and any written notice required has been given.

IN WITNESS WHEREOF, the undersigned corporation has executed these Articles of Amendment as of the 1<sup>st</sup> day of September, 2004.

INLAND RESOURCES INC.

By: Susan G. Riggs  
Susan G. Riggs, Treasurer



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
P.O. Box 45155  
Salt Lake City, UT 84145-0155  
<http://www.blm.gov>



IN REPLY REFER TO:  
3106  
(UT-924)

September 16, 2004

### Memorandum

To: Vernal Field Office

From: Acting Chief, Branch of Fluid Minerals

Subject: Merger Approval

Attached is an approved copy of the name change recognized by the Utah State Office. We have updated our records to reflect the merger from Inland Production Company into Newfield Production Company on September 2, 2004.

Michael Coulthard  
Acting Chief, Branch of  
Fluid Minerals

### Enclosure

1. State of Texas Certificate of Registration

cc: MMS, Reference Data Branch, James Sykes, PO Box 25165, Denver CO 80225  
State of Utah, DOGM, Attn: Earlene Russell, PO Box 145801, SLC UT 84114  
Teresa Thompson  
Joe Incardine  
Connie Seare

UTSL-	15855	61052	73088	76561	
071572A	16535	62848	73089	76787	
065914	16539	63073B	73520A	76808	
	16544	63073D	74108	76813	
	17036	63073E	74805	76954	63073X
	17424	63073O	74806	76956	63098A
	18048	64917	74807	77233	68528A
UTU-	18399	64379	74808	77234	72086A
	19267	64380	74389	77235	72613A
02458	26026A	64381	74390	77337	73520X
03563	30096	64805	74391	77338	74477X
03563A	30103	64806	74392	77339	75023X
04493	31260	64917	74393	77357	76189X
05843	33992	65207	74398	77359	76331X
07978	34173	65210	74399	77365	76788X
09803	34346	65635	74400	77369	77098X
017439B	36442	65967	74404	77370	77107X
017985	36846	65969	74405	77546	77236X
017991	38411	65970	74406	77553	77376X
017992	38428	66184	74411	77554	78560X
018073	38429	66185	74805	78022	79485X
019222	38431	66191	74806	79013	79641X
020252	39713	67168	74826	79014	80207X
020252A	39714	67170	74827	79015	81307X
020254	40026	67208	74835	79016	
020255	40652	67549	74868	79017	
020309D	40894	67586	74869	79831	
022684A	41377	67845	74870	79832	
027345	44210	68105	74872	79833	
034217A	44426	68548	74970	79831	
035521	44430	68618	75036	79834	
035521A	45431	69060	75037	80450	
038797	47171	69061	75038	80915	
058149	49092	69744	75039	81000	
063597A	49430	70821	75075		
075174	49950	72103	75078		
096547	50376	72104	75089		
096550	50385	72105	75090		
	50376	72106	75234		
	50750	72107	75238		
10760	51081	72108	76239		
11385	52013	73086	76240		
13905	52018	73087	76241		
15392	58546	73807	76560		



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8  
999 18<sup>TH</sup> STREET - SUITE 300  
DENVER, CO 80202-2466  
Phone 800-227-8917  
<http://www.epa.gov/region08>

JUN - 3 2005

Ref: 8P-W-GW

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Mr. Mike Guinn  
Vice President - Operations  
Newfield Production Co.  
Route 3 - Box 3630  
Myton, Utah 84502

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
FOR RECORD ONLY

RE: ADDITIONAL WELL TO AREA PERMIT  
Humpback Area Permit: UT20852-00000  
**Humpback No. 9-25-8-17**  
**Well ID: 20852-06687**  
NE SE Sec. 25 - T8S - 17E  
Uintah County, Utah

Dear Mr. Guinn:

The Newfield Production Co. (Newfield) request **to convert** a former Green River Formation oil well, the Humpback No. 9-25-8-17, to a Garden Gulch-Douglas Creek-Basal Carbonate Members of the Green River Formation enhanced recovery injection well in the Humpback Area Permit is hereby authorized. The proposed Humpback No. 9-25-8-17 Class II enhanced recovery injection well is within the exterior boundary of the Humpback Area Permit UT20852-00000; is within the exterior boundary of the Uintah & Ouray Indian Reservation; and the addition is being made under the authority of 40 CFR § 144.33 (c) and the terms of the Area Permit. Unless specifically mentioned in the enclosed Authorization For An Additional Well, all terms and conditions of the original Area Permit will apply to the conversion, operation, monitoring, and plugging and abandonment of the Humpback No. 9-25-8-17.

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JUN 06 2005

DIV. OF OIL, GAS & MINING



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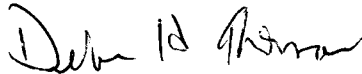
Prior to beginning injection, the Environmental Protection Agency (EPA) requires that Newfield submit for review and approval (1) the results of a **Part I (Internal) mechanical integrity test (MIT)**, (2) a **pore pressure** calculation of the injection interval, (3) an **EPA Form No. 7520-12** (Well Rework Record, enclosed).

Part II. Section C. Condition No. 5. (Injection Pressure Limitation), Humpback Area Permit (UT20852-00000) , cites the method by which the maximum allowable injection pressure (MAIP) shall be calculated for each Additional Well to the Humpback Area Permit. As a result, the MAIP for the Humpback No. 9-25-8-17 shall not exceed **1110 psig**. The Humpback Area Permit, Part II. C. 5., provides an opportunity for the permittee to request an increase, or decrease, in the initial maximum surface injection pressure.

Please be aware that Newfield does not have authorization to begin injection into the Humpback No. 9-25-8-17 until the Prior to Commencing Injection requirements, listed above, have been submitted and evaluated by the EPA, and Newfield has received written authorization to begin injection from the Assistant Regional Administrator, or the Assistant Regional Administrator's authorized representative.

If Newfield has any questions, please call Mr. Dan Jackson at (800) 227-8917 (Ext. 6155), or in the Denver area at (303) 312-6155. Please submit the required pre-authorization to inject data to **ATTENTION: DAN JACKSON**, at the letterhead address, citing **MAIL CODE: 8P-W-GW** very prominently.

Sincerely,



for Stephen S. Tuber  
Assistant Regional Administrator  
Office of Partnerships and Regulatory Assistance

enclosures: Authorization For Conversion of An Additional Well  
EPA Form No. 7520-12 (Well Rework Record)  
Guidance No. 39: Part I Mechanical Integrity (Internal)  
Schematic Diagram: Proposed Conversion

cc w/ enclosures: Maxine Natchees  
Chairperson  
Uintah & Ouray Business Committee  
Ute Indian Tribe

Elaine Willie  
Environmental Coordinator  
Ute Indian Tribe

Chester Mills  
Superintendent  
Bureau of Indian Affairs  
Uintah & Ouray Indian Agency

David Gerbig  
Operations Engineer  
Newfield Production Company  
Denver, CO 80202

Gil Hunt  
Technical Services Manager  
State of Utah - Natural Resources

Kirk Fleetwood  
Petroleum Engineer  
Bureau of Land Management  
Vernal District



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**REGION 8**

**999 18<sup>TH</sup> STREET - SUITE 300**

**DENVER, CO 80202-2466**

**Phone 800-227-8917**

**<http://www.epa.gov/region08>**

**AUTHORIZATION FOR AN ADDITIONAL WELL  
TO THE  
HUMPBAC AREA PERMIT: UT20852-00000**

The Environmental Protection Agency (EPA) authorizes the inclusion of an additional enhanced recovery injection well to the Humpback Area Permit No. UT20852-00000, as authorized by 40 CFR § 144.33 (c). The additional well is described as:

**WELL NAME: HUMPBAC NO. 9-25-8-17**

**WELL PERMIT NUMBER: UT20852-06687**

**SURFACE LOCATION: 735' FEL & 1996' FSL (NE SE)  
Sec. 25 - T8S - R17E  
Uintah County, Utah.**

This well is subject to all provisions of the original Humpback Area Permit No. UT20852-00000, and subsequent Modifications, unless specifically detailed below:

**UNDERGROUND SOURCE OF DRINKING WATER (USDW):** The base of the USDW (Total Dissolved Solids less than 10,000 mg/l) occurs within the Uinta Formation **less than 50 feet** from ground level (GL). The source for the location of the base of the USDW is the STATE OF UTAH: PUBLICATION NO. 2. BASE OF MODERATELY SALINE GROUND WATER IN THE UINTA BASIN, UTAH. Surface casing was set at **309 feet** kelly bushing (KB) and cemented to the surface.

Reference: <http://NRWRT1.NR.STATE.UT.US...> Water Rights...Queries...POD: Within the one-quarter (1/4) mile Area-of-Review (AOR) around the Humpback No. 9-25-8-17 there are no reservoirs, streams, springs or wells.

**WATER ANALYSES:**

**Produced Green River Formation Water: (1/10/05) 11,118 mg/l TDS.**

**Source Water: Johnson Water District Reservoir. (1/10/05) 674 mg/l TDS.**

**Blended Injectate: (1/18/05) 6783 mg/l TDS.**



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**CONFINING ZONE REVIEW: HUMPBAC NO. 9-25-8-17.**

The EPA has authorized the gross interval from the top of the Garden Gulch Member to the top of the Wasatch as the enhanced recovery injection interval within the Humpback Area Permit. Overlying the top of the Garden Gulch Member (3998 feet), in the Humpback No. 9-25-8-17, are twenty-six (26) feet of Green River Formation black, slightly silty, impervious shale which forms an effective lithologic **confining zone 3972 feet to 3998 feet.**

Cement Bond Log (CBL) analysis does not identify any 80% bond index cement bond within the confining zone.

**INJECTION ZONE REVIEW: HUMPBAC NO. 9-25-8-17.**

The Humpback Final Area Permit (Effective October 8, 1998) authorized injection into the Douglas Creek Member of the Green River Formation. By Major Permit Modification No. 1 (Effective September 9, 2003), the EPA authorized the gross Green River Formation Garden Gulch-Douglas Creek-Basal Carbonate Members as the enhanced recovery injection interval for the Boundary Area Permit. This Modification also recognized the **Federal No. 1-26** (NE NW Sec. 26 - T8S - R17E), UIC Permit No. UT20702-04671, as the **TYPE WELL** for identifying the tops of the Garden Gulch Member, the Douglas Creek Member, the Basal Carbonate Member, the top of the Wasatch Formation and the "Confining Zone" overlying the top of the Garden Gulch Member.

**The authorized injection zone for the Humpback No. 9-25-8-17 will be from the Garden Gulch Member (3998 feet) to the top of the Wasatch Formation (Estimated to be 6313 feet).**

Lithologically, the gross authorized enhanced recovery injection interval, Garden Gulch to the top of the Wasatch Formation, is fluvial and lacustrine shale, fluvial and lacustrine sandstone, lacustrine marlstone, and limestone. The Uinta and Green River Formations are predominantly non-lacustrine fluvial shale and sandstone on the basin margins, whereas lacustrine deposition predominates in the central basin area for these two formations. The Wasatch Formation is predominantly fluvial, except for increasing minor lacustrine deposition in the central basin area.

**WELL CONSTRUCTION REVIEW: HUMPBAC NO. 9-25-8-17.**

**SURFACE CASING:** 8-5/8 inch casing is set at 309 feet in a 12-1/4 inch hole, using 150 sacks of Class "G" cement circulated to the surface. The base of the USDW is less than fifty (50) feet from ground level.

LONGSTRING CASING: 5-1/2 inch casing is set at 6232 feet kelly bushing (KB) in a 7-7/8 inch hole, and cemented with 310 sacks of Premium Lite II mixed and 400 sacks of 50/50 Pozmix.

The operator identifies the top of cement at 170 feet.

The EPA analysis of the CBL/GR identifies 80% cement bond index from 4274 feet to 4299 feet.

An EPA analysis of the Humpback No. 9-25-8-17 CBL/GR did not identify continuous 80% bond index cement bond across the Garden Gulch Member confining zone, pursuant to standards of Region 8 GROUND WATER SECTION GUIDANCE NO. 34: Cement Bond Logging Techniques and Interpretation. Therefore, **it has been determined that the cement in this well may not provide an effective barrier** to upward movement of fluids through vertical channels adjacent to the wellbore, pursuant to 40 CFR 146.8 (a) (2).

## PART II. A. CONSTRUCTION REQUIREMENTS FOR ADDITIONAL WELLS

Tubing and Packer: (Condition 3)

For injection purposes, the **Humpback No. 9-25-8-17** shall be equipped with 2-7/8 tubing with a packer to be set at a depth no higher than 100 feet above the top perforation.

Formation Testing and Logging (Condition 6)

- (a) Upon conversion of the **Humpback No. 9-25-8-17**, the permittee is required to determine the injection zone **fluid pore pressure** (static bottom hole pressure) prior to commencement of enhanced recovery injection operation. The results of this test shall be submitted to the EPA.
- (b) A **Step-Rate Test (SRT)** shall be performed on the **Humpback No. 9-25-8-17** within three (3) to six (6) months after injection operations are initiated and the results submitted to the EPA. The permittee may contact the EPA prior to conducting the SRT to acquire the most current Guidance for conducting the SRT.

Because the Cement Bond Log (CBL) submitted for the Humpback No. 9-25-8-17 did not show any 80% bond index cement bond within the Confining Zone overlying the top of the Garden Gulch Member, the operator shall be required to demonstrate Part II (External) Mechanical Integrity (MI) within a 180-day Limited Authorization to Inject. The Part II MI may be demonstrated by a Temperature Log, Noise Log, Oxygen Activation Log, or Region VIII may

accept the results from a Radioactive Tracer Survey (RATS) under certain circumstances. The Limited Authorization to Inject is for the purpose of stabilizing the injection zone prior to a Part II MI demonstration.

## **PART II. B.**

### Corrective Action

As of May 2005, there are three (3) active Green River oil wells within the one-quarter (1/4) mile radius around the Humpback No. 9-25-8-17. There is also one (1) proposed Green River location (NW SW Sec. 30-T8S-R18E). No wells need Corrective Action.

### **Garden Gulch-Douglas Creek Members Oil Wells:**

<u><b>Humpback No. 8-25-8-17:</b></u>	<b>SE NE Sec. 25 -T8S-R17E</b>
Top Garden Gulch Member:	4098 feet
Garden Gulch Confining Zone:	4072 feet - 4098 feet
Top 80% EPA Cement Bond:	3980 feet - 4047 feet
	4126 feet - 4180 feet
Top Douglas Creek Member:	5048 feet
CBL Total Depth:	6261 feet
Top Basal Carbonate Member:	6248 feet (Est.)
Total Depth (Driller):	6340 feet in Basal Carbonate.

The 26-foot confining shale overlying the top of the Garden Gulch Member is not protected by 80% bond index cement bond. This lack of confining zone annulus cement may not prevent upward movement of injected fluids through vertical channels adjacent to the well bore. The permittee will be required to inspect the surface of this location for fluid leaks on a weekly basis. **Any observation of surface leakage may be considered as noncompliance with the Humpback No. 9-25 -8-17 Permit.** The Humpback No. 9-25-8-17 shall suspend operations immediately, and will stay suspended until the noncompliance has been resolved, and renewed injection has been approved in writing by the Director.

<u><b>Humpback No. 33-25-8-17:</b></u>	<b>NW SE Sec. 25-T8S-R17E</b>
Top Garden Gulch Member:	4012 feet
Garden Gulch Confining Zone:	3984 feet to 4012 feet
Top 80% EPA Cement Bond:	4690 feet to 4718 feet
Top Douglas Creek Member:	5004 feet
Total Depth (Driller):	6150 feet in Douglas Creek Member

The 28-foot confining shale overlying the top of the Garden Gulch Member is not protected by 80% bond index cement bond. This lack of confining zone annulus

cement may not prevent upward movement of injected fluids through vertical channels adjacent to the well bore. The permittee will be required to inspect the surface of this location for fluid leaks on a weekly basis. **Any observation of surface leakage may be considered as noncompliance with the Humpback No. 9-25-8-17 Permit.** The Humpback No. 9-25-8-17 shall suspend operations immediately, and will stay suspended until the noncompliance has been resolved, and renewed injection has been approved in writing by the Director.

**Douglas Creek Member Oil Well:**

<b><u>Humpback No. 16-25-8-17</u></b>	<b>SE SE Sec. 25 - T8S - R17E</b>
Top Garden Gulch Member:	4012 feet
Garden Gulch Confining Zone:	3990 feet - 4012 feet
Top 80% EPA Cement Bond:	4603 feet - 4631 feet
Top Douglas Creek Member:	4952 feet
Top Basal Carbonate Member:	6186 feet (Est.)
CBL Total Depth:	6228 feet
Wasatch Formation:	6311 feet (Est.)
Total Depth (Driller):	6317 feet in Wasatch .

The 22-foot confining shale overlying the top of the Garden Gulch Member is not protected by 80% bond index cement bond. This lack of confining zone annulus cement may not prevent upward movement of injected fluids through vertical channels adjacent to the well bore. The permittee will be required to inspect the surface of this location for fluid leaks on a weekly basis. **Any observation of surface leakage may be considered as noncompliance with the Humpback No. 9-25-8-17 Permit.** The Humpback No. 9-25-8-17 shall suspend operations immediately, and will stay suspended until the noncompliance has been resolved, and renewed injection has been approved in writing by the Director.

PART II. C.

**Prior to Commencing Injection (Additional Wells)**

(Condition 2)

**Humpback No. 9-25-8-17:** This document is being issued without authority to inject. Prior to beginning injection, the operator is required to submit the following information for EPA review and written approval:

- A successful **mechanical integrity test (MIT)** demonstrating Part I Internal MI (Enclosed);
- a **pore pressure calculation** of the proposed injection zone; and an
- EPA Form No. 7520-12 (**Well Rework Record**, enclosed).

Injection Interval

(Condition 3)

Injection shall be limited to the gross Garden Gulch, Douglas Creek and Basal Carbonate Members of the Green River Formation from 3998 feet (KB) to the top of the Wasatch Formation, estimated to be 6313 feet (KB).

Injection Pressure Limitation

(Condition 4)

Pursuant to Final Area Permit UT20852-00000, Part II. Section C. 5. (b). the maximum allowable injection pressure (MAIP) shall not exceed 1752 psig. Until such time that a Step-Rate Test (SRT) has been performed, reviewed and approved by the EPA, the initial MAIP for the Humpback No. 9-25-8-17 shall not exceed **1110 psig**.

A fracture gradient (FG) of 0.690 psi/ft is the minimum value FG calculated from six (6) sand/frac treatments. A review of nine (9) SRT FG values within Sections 23-24-25 indicate that a sand-frac **FG of 0.690** psi/ft is compatible with all nine (9) SRT derived FGs .

Until such time that a step-rate injectivity test (SRT) has been performed, reviewed, and approved by the EPA, the initial maximum allowable injection pressure (**MAIP**) for the **Humpback No. 9-25-8-17** shall not exceed **1110 psig**.

$$\begin{aligned} \text{MAIP} &= [\text{FG} - (0.433)(\text{SG}) D \\ \text{FG} &= 0.690 \text{ psi/ft} \\ \text{SG} &= 1.005 \\ D &= 4363 \text{ feet. Top perforation.} \end{aligned}$$

$$\text{MAIP} = [0.690 - (0.433)(1.005)] 4363$$

$$\text{MAIP} = 1112 \text{ psig, but rounded down to } \mathbf{1110 \text{ psig.}}$$

Part II. C. 5. (b) Final Area Permit (UT20852-00000), has a provision whereby the operator may request an increase, or decrease, in the maximum surface injection pressure.

**PART II. F.**Demonstration of Financial Responsibility:

(Condition 1)

The current plugging and abandonment cost for the Humpback No. 9-26-8-17 is estimated to be \$33,025.00. The applicant has chosen to demonstrate financial responsibility via a **Financial Statement** that has been reviewed and approved by the EPA.

**PART III. E.**

**PART III. E.****Reporting of Noncompliance:**

(Condition 10)

- (a) Anticipated Noncompliance. The operator shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- (b) Compliance Schedules. Reports of compliance or noncompliance with, or any progress on, interim and final requirements contained in any compliance schedule of this Permit shall be submitted **no later than thirty (30) days following each schedule date.**
- (c) Written Notice of any noncompliance which may endanger health or the environment **shall be reported to the Director within five (5) days** of the time the operator becomes aware of the noncompliance. The written notice shall contain a description of the noncompliance and its cause; the period of noncompliance including dates and times; if the noncompliance has not been corrected the anticipated time it is expected to continue; and steps taken or planned to prevent or reduce recurrence of the noncompliance.

**Twenty-Four Hour Noncompliance Reporting:**

(Condition 11)

**The operator shall report to the Director any noncompliance which may endanger health or environment.** Information shall be provided, either orally or by leaving a message, within twenty-four (24) hours from the time the operator becomes aware of the circumstances by telephoning 1-800-227-8917 and asking for the **EPA Region VIII UIC Program Compliance and Enforcement Director**, or by contacting the **Region VIII Emergency Operations Center at 303-293-1788** if calling from outside EPA Region VIII. The following information shall be included in the verbal report:

- (a) Any monitoring or other information which indicates that any contaminant may cause an endangerment to a USDW.
- (b) Any noncompliance with a Permit condition or malfunction of the injection system which may cause fluid migration into or between underground sources of drinking water.

**Oil Spill and Chemical Release Reporting:**

(Condition 12)

The operator shall comply with all other reporting requirements related to oil spills and chemical releases or other potential impacts to human health or the environment by contacting the **National Response Center (NRC) 1-800-424-8802 or 202-267-2675**, or through the NRC website at **<http://www.nrc.uscg.mil/index.htm>**.

Other Noncompliance:

(Condition 13)

The operator shall report all other instances of noncompliance not otherwise reported at the time monitoring reports are submitted. The reports shall contain the information listed in Part III. 10. c. ii. of this Permit.

Other Information: Where the operator becomes aware that he failed to submit any relevant facts in the Permit application, or submitted incorrect information in a Permit application, or in any report to the Director, the operator shall submit such correct facts or information within two (2) weeks of the time such information became known to him.

**APPENDIX C**

PLUGGING AND ABANDONMENT: The Plugging and Abandonment (P&A) Plan (Application Attachment Q-2) submitted by the applicant has been reviewed and approved by the EPA. The P&A Plan is consistent with EPA requirements to protect all USDWs. The permittee will place 9.2 ppg plugging gel or bentonite mud between all cement plugs.

PLUG NO. 1: Set a cast iron bridge plug (CIBP) at 4268 feet. Place 100 feet of Class "G" cement on top of CIBP.

PLUG NO. 2: Set a cement plug inside of the 5-1/2 inch casing from 2000 feet to 2200 feet over a water zone.

PLUG NO. 3: Perforate 4 JSPF at 360 feet. Circulate Class "G" cement down the 5-1/2 inch casing and up the 5-1/2 inch X 8-5/8 inch annulus to the surface.

This authorization for well conversion of the Humpback No. 9-25-8-17 to an injection well becomes effective upon signature.

Date: April - 3, 2005



*for* Stephen S. Tuber  
Assistant Regional Administrator  
Office of Partnerships and Regulatory Assistance

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460**WELL REWORK RECORD**

NAME AND ADDRESS OF PERMITTEE

NAME AND ADDRESS OF CONTRACTOR

LOCATE WELL AND OUTLINE UNIT ON  
SECTION PLAT — 640 ACRES

N									
S									

W E

STATE

COUNTY

PERMIT NUMBER

SURFACE LOCATION DESCRIPTION

1/4 of 1/4 of 1/4 of 1/4 of Section Township Range

LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT

Surface

Location ft. from (N/S) Line of quarter section

and ft. from (E/W) Line of quarter section

**WELL ACTIVITY**

- ☐ Brine Disposal  
☐ Enhanced Recovery  
☐ Hydrocarbon Storage

Lease Name

Total Depth Before Rework

Total Depth After Rework

Date Rework Commenced

Date Rework Completed

**TYPE OF PERMIT**

- ☐ Individual  
☐ Area  
 Number of Wells

Well Number

**WELL CASING RECORD — BEFORE REWORK**

Casing		Cement		Perforations		Acid or Fracture Treatment Record
Size	Depth	Sacks	Type	From	To	

**WELL CASING RECORD — AFTER REWORK (Indicate Additions and Changes Only)**

Casing		Cement		Perforations		Acid or Fracture Treatment Record
Size	Depth	Sacks	Type	From	To	

DESCRIBE REWORK OPERATIONS IN DETAIL  
USE ADDITIONAL SHEETS IF NECESSARY**WIRE LINE LOGS. LIST EACH TYPE**

	Log Types		Logged Intervals

**CERTIFICATION**

*I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32).*

NAME AND OFFICIAL TITLE (Please type or print)

SIGNATURE

DATE SIGNED



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500  
DENVER, COLORADO 80202-2466

SUBJECT: GROUND WATER SECTION GUIDANCE NO. 39  
Pressure testing injection wells for Part I (internal)  
Mechanical Integrity

FROM: Tom Pike, Chief  
UIC Direct Implementation Section

TO: All Section Staff  
Montana Operations Office

Introduction

The Underground Injection Control (UIC) regulations require that an injection well have mechanical integrity at all times (40 CFR 144.28 (f) (2) and 40 CFR 144.51 (q) (1)). A well has mechanical integrity (40 CFR 146.8) if:

- (1) There is no significant leak in the tubing, casing or packer; and
- (2) There is no significant fluid movement into an underground source of drinking water (USDW) through vertical channels adjacent to the injection wellbore.

Definition: Mechanical Integrity Pressure Test for Part I. A pressure test used to determine the integrity of all the downhole components of an injection well, usually tubing, casing and packer. It is also used to test tubing cemented in the hole by using a tubing plug or retrievable packer. Pressure tests must be run at least once every five years. If for any reason the tubing/packer is pulled, the injection well is required to pass another mechanical integrity test of the tubing casing and packer prior to recommencing injection regardless of when the last test was conducted. Tests run by operators in the absence of an EPA inspector must be conducted according to these procedures and recorded on either the attached form or an equivalent form containing the necessary information. A pressure recording chart documenting the actual annulus test pressures must be attached to the form.

This guidance addresses making a determination of Part I of Mechanical Integrity (no leaks in the tubing, casing or packer). The Region's policy is: 1) to determine if there are significant leaks in the tubing, casing or packer; 2) to assure that the casing can withstand pressure similar to that which

would be applied if the tubing or packer fails; 3) to make the Region's test procedure consistent with the procedures utilized by other Region VIII Primacy programs; and 4) to provide a procedure which can be easily administered and is applicable to all class I and II wells. Although there are several methods allowed for determining mechanical integrity, the principal method involves running a pressure test of the tubing/casing annulus. Region VIII's procedure for running a pressure test is intended to aid UIC field inspectors who witness pressure tests for the purpose of demonstrating that a well has Part I of Mechanical Integrity. The guidance is also intended as a means of informing operators of the procedures required for conducting the test in the absence of an EPA inspector.

### Pressure Test Description

#### Test Frequency

The mechanical integrity of an injection well must be maintained at all times. Mechanical integrity pressure tests are required at least every five (5) years. If for any reason the tubing/packer is pulled, however, the injection well is required to pass another mechanical integrity test prior to recommencing injection regardless of when the last test was conducted. The Regional UIC program must be notified of the workover and the proposed date of the pressure test. The well's test cycle would then start from the date of the new test if the well passes the test and documentation is adequate. Tests may be required on a more frequent basis depending on the nature of the injectate and the construction of the well (see Section guidance on MITs for wells with cemented tubing and regulations for Class I wells).

Region VIII's criteria for well testing frequency is as follows:

1. Class I hazardous waste injection wells; initially [40 CFR 146.68(d)(1)] and annually thereafter;
2. Class I non-hazardous waste injection wells; initially and every two (2) years thereafter, except for old permits (such as the disposal wells at carbon dioxide extraction plants which require a test at least every five years);
3. Class II wells with tubing, casing and packer; initially and at least every five (5) years thereafter;
4. Class II wells with tubing cemented in the hole; initially and every one (1) or two (2) years thereafter

depending on well specific conditions (See Region VIII UIC Section Guidance #36);

5. Class II wells which have been temporarily abandoned (TAd) must be pressure tested after being shut-in for two years; and
6. Class III uranium extraction wells; initially.

#### Test Pressure

To assure that the test pressure will detect significant leaks and that the casing is subjected to pressure similar to that which would be applied if the tubing or packer fails, the tubing/casing annulus should be tested at a pressure equal to the maximum allowed injection pressure or 1000 psig whichever is less. The annular test pressure must, however, have a difference of at least 200 psig either greater or less than the injection tubing pressure. Wells which inject at pressures of less than 300 psig must test at a minimum pressure of 300 psig, and the pressure difference between the annulus and the injection tubing must be at least 200 psi.

#### Test Criteria

1. The duration of the pressure test is 30 minutes.
2. Both the annulus and tubing pressures should be monitored and recorded every five (5) minutes.
3. If there is a pressure change of 10 percent or more from the initial test pressure during the 30 minute duration, the well has failed to demonstrate mechanical integrity and should be shut-in until it is repaired or plugged.
4. A pressure change of 10 percent or more is considered significant. If there is no significant pressure change in 30 minutes from the time that the pressure source is disconnected from the annulus, the test may be completed as passed.

#### Recordkeeping and Reporting

The test results must be recorded on the attached form. The annulus pressure should be recorded at five (5) minute intervals. Tests run by operators in the absence of an EPA inspector must be conducted according to these procedures and recorded on the attached form or an equivalent form and a pressure recording

chart documenting the actual annulus test pressures must be attached to the submittal. The tubing pressure at the beginning and end of each test must be recorded. The volume of the annulus fluid bled back at the surface after the test should be measured and recorded on the form. This can be done by bleeding the annulus pressure off and discharging the associated fluid into a five gallon container. The volume information can be used to verify the approximate location of the packer.

#### Procedures for Pressure Test

1. Scheduling the test should be done at least two (2) weeks in advance.
2. Information on the well completion (location of the packer, location of perforations, previous cement work on the casing, size of casing and tubing, etc.) and the results of the previous MIT test should be reviewed by the field inspector in advance of the test. Regional UIC Guidance #35 should also be reviewed. Information relating to the previous MIT and any well workovers should be reviewed and taken into the field for verification purposes.
3. All Class I wells and Class II SWD wells should be shut-in prior to the test. A 12 to 24-hour shut-in is preferable to assure that the temperature of the fluid in the wellbore is stable.
4. Class II enhanced recovery wells may be operating during the test, but it is recommended that the well be shut-in if possible.
5. The operator should fill the casing/tubing annulus with inhibited fluid at least 24 hours in advance, if possible. Filling the annulus should be undertaken through one valve with the second valve open to allow air to escape. After the operator has filled the annulus, a check should be made to assure that the annulus will remain full. If the annulus can not maintain a full column of fluid, the operator should notify the Director and begin a rework. The operator should measure and report the volume of fluid added to the annulus. If not already the case, the casing/tubing valves should be closed, at least, 24 hours prior to the pressure test.

Following steps are at the well:

6. Read tubing pressure and record on the form. If the

well is shut-in, the reported information on the actual maximum operating pressure should be used to determine test pressures.

7. Read pressure on the casing/tubing annulus and record value on the form. If there is pressure on the annulus, it should be bled off prior to the test. If the pressure will not bleed-off, the guidance on well failures (Region VIII UIC Section Guidance #35) should be followed.
8. Ask the operator for the date of the last workover and the volume of fluid added to the annulus prior to this test and record information on the form.
9. Hook-up well to pressure source and apply pressure until test value is reached.
10. Immediately disconnect pressure source and start test time (If there has been a significant drop in pressure during the process of disconnection, the test may have to be restarted). The pressure gages used to monitor injection tubing pressure and annulus pressure should have a pressure range which will allow the test pressure to be near the mid-range of the gage. Additionally, the gage must be of sufficient accuracy and scale to allow an accurate reading of a 10 percent change to be read. For instance, a test pressure of 600 psi should be monitored with a 0 to 1000 psi gage. The scale should be incremented in 20 psi increments.
11. Record tubing and annulus pressure values every five (5) minutes.
12. At the end of the test, record the final tubing pressure.
13. If the test fails, check the valves, bull plugs and casing head close up for possible leaks. The well should be retested.
14. If the second test indicates a well failure, the Region should be informed of the failure within 24 hours by the operator, and the well should be shut-in within 48 hours per Headquarters guidance #76. A follow-up letter should be prepared by the operator which outlines the cause of the MIT failure and proposes a potential course of action. This report should be submitted to EPA within five days.

15. Bleed off well into a bucket, if possible, to obtain a volume estimate. This should be compared to the calculated value obtained using the casing/tubing annulus volume and fluid compressibility values.
16. Return to office and prepare follow-up.

#### Alternative Test Option

While it is expected that the test procedure outlined above will be applicable to most wells, the potential does exist that unique circumstances may exist for a given well that precludes or makes unsafe the application of this test procedure. In the event that these exceptional or extraordinary conditions are encountered, the operator has the option to propose an alternative test or monitoring procedures. The request must be submitted by the operator in writing and must be approved in writing by the UIC-Implementation Section Chief or equivalent level of management.

Attachment

# Mechanical Integrity Test

## Casing or Annulus Pressure Mechanical Integrity Test

U.S. Environmental Protection Agency  
Underground Injection Control Program, UIC Direct Implementation Program 8P-W-GW  
999 18<sup>th</sup> Street, Suite 500 Denver, CO 80202-2466

EPA Witness: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Test conducted by: \_\_\_\_\_

Others present: \_\_\_\_\_

Well Name: _____	Type: ER SWD	Status: AC TA UC
Field: _____		
Location: _____	Sec: _____ T _____ N/S R _____ E/W	County: _____ State: _____
Operator: _____		
Last MIT: ____/____/____	Maximum Allowable Pressure: _____	PSIG

Is this a regularly scheduled test? ☐ Yes ☐ No

Initial test for permit? ☐ Yes ☐ No

Test after well rework? ☐ Yes ☐ No

Well injecting during test? ☐ Yes ☐ No If Yes, rate: \_\_\_\_\_ bpd

Pre-test casing/tubing annulus pressure: \_\_\_\_\_ psig

MIT DATA TABLE		Test #1	Test #2	Test #3
<b>TUBING PRESSURE</b>				
Initial Pressure	psig	psig	psig	psig
End of test pressure	psig	psig	psig	psig
<b>CASING / TUBING ANNULUS PRESSURE</b>				
0 minutes	psig	psig	psig	psig
5 minutes	psig	psig	psig	psig
10 minutes	psig	psig	psig	psig
15 minutes	psig	psig	psig	psig
20 minutes	psig	psig	psig	psig
25 minutes	psig	psig	psig	psig
30 minutes	psig	psig	psig	psig
minutes	psig	psig	psig	psig
minutes	psig	psig	psig	psig
<b>RESULT</b>	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

Does the annulus pressure build back up after the test? ☐ Yes ☐ No

# Humpback 9-25-8-17

Spud Date: 6/25/03  
Put on Production: 7/24/03  
GL: 4956' KB: 4968'

Initial Production: 99 BOPD,  
82 MCFD, 15 BWPD

## Proposed Injection Wellbore Diagram

### SURFACE CASING

CSG SIZE: 8 5/8"  
GRADE: J-55  
WEIGHT: 24#  
LENGTH: 7 jts. (299.74')  
DEPTH LANDED: 309.74' KB  
HOLE SIZE: 12 1/4"  
CEMENT DATA: 150 sxs Class "G" cmt, est 3 bbls cmt to surf.

*Base USOW's <50'*

*Confining Zone 3972-3998'  
Garden Gulch 3998'*

### PRODUCTION CASING

CSG SIZE: 5 1/2"  
GRADE: J-55  
WEIGHT: 15.5#  
LENGTH: 148 jts. (6234.23')  
DEPTH LANDED: 6232.23' KB  
HOLE SIZE: 7 7/8"  
CEMENT DATA: 310 sxs Prem. Lite II mixed & 400 sxs 50/50 POZ.  
CEMENT TOP AT: 1260'

*80% Bond 4274'-4299'*

### TUBING

SIZE/GRADE/WT: 2 7/8" / J-55 / 6.5#  
NO. OF JOINTS: 190 jts (5968.13')  
TUBING ANCHOR: 5980.13' KB  
NO. OF JOINTS: 2 jts (62.76')  
SEATING NIPPLE: 2 7/8" (1.10')  
SN LANDED AT: 6045.69' KB  
NO. OF JOINTS: 2 jts (62.92')  
TOTAL STRING LENGTH: EOT @ 6110.16' W/ 12' KB

### FRAC JOB

7/18/03 6010'-6146' Frac CP4 and CP5 sands as follows:  
84,923# 20/40 sand in 358 Bbls Viking I-25  
fluid. Treated @ avg press of 1855 psi w/ avg  
rate of 24.6 BPM. ISIP: 1950 psi. Calc flush:  
6008 gal. Actual flush: 5943 gal.

7/18/03 5790'-5932' Frac CP3, CP2, CP1, & CP.5 sands as  
follows:  
119,697# 20/40 sand in 511 Bbls Viking I-25  
fluid. Treated @ avg. press of 1395 psi w/  
avg rate of 24.5 BPM. ISIP: 1525 psi. Calc  
flush: 5788 gal. Actual flush: 5787 gal.

7/18/03 5474'-5591' Frac LODC and A3 sands as follows:  
179,702# 20/40 sand in 768 Bbls Viking I-25  
fluid. Treated @ avg. press of 1960 psi w/  
avg rate 24.6 BPM. ISIP: 2100 psi. Calc  
flush: 5472 gal. Actual flush: 5418 gal.

7/19/03 5264'-5314' Frac B1 and B2 sands as follows:  
87,997# 20/40 sand in 384 Bbls Viking I-25  
fluid. Treated @ avg. press of 1095 psi w/  
avg rate of 24.7 BPM. ISIP: 1350. Calc  
flush: 5262 gal. Actual flush: 5208 gal.

7/19/03 5113'-5167' Frac C and D3 sands as follows:  
64,589# 20/40 sand in 288 Bbls Viking I-25  
fluid. Treated @ avg press of 1630 psi w/ avg  
rate of 24.5 BPM. ISIP: 2000 psi. Calc  
flush: 5111 gal. Actual flush: 5040 gal.

7/19/03 4363'-4423' Frac GB2, GB4, and GB6 sands as follows:  
85,927# 20/40 sand in 384 Bbls Viking I-25  
fluid. Treated @ avg. press of 2005 psi w/  
avg rate of 24.6 BPM. ISIP: 2130 psi. Calc  
flush: 4361 gal. Actual flush: 4284 gal.

Packer @ 4328'

4363'-4370'

4439'-4446'

4467'-4475'

4514'-4523'

*- 4943' Douglas Creek*

5113'-5118'

5140'-5144'

5151'-5167'

5264'-5269'

5272'-5278'

5281'-5286'

5289'-5294'

5297'-5304'

5307'-5314'

5474'-5481'

5505'-5531'

5535'-5543'

5547'-5555'

5570'-5575'

5581'-5591'

5598'-5602'

5790'-5795'

5844'-5863'

5884'-5907'

5926'-5932'

6010'-6020'

6046'-6050'

6113'-6122'

6141'-6146'

PBTD @ 6217'

SHOE @ 6232'

TD @ 6245'

6188' Basal Carbonate

- Est. Wasatch 6313'

### PERFORATION RECORD

Date	Interval	Tool	Holes
7/16/03	6141'-6146'	4 JSPF	20 holes
7/16/03	6113'-6122'	4 JSPF	36 holes
7/16/03	6046'-6050'	4 JSPF	16 holes
7/16/03	6010'-6020'	4 JSPF	40 holes
7/18/03	5926'-5932'	4 JSPF	24 holes
7/18/03	5884'-5907'	2 JSPF	46 holes
7/18/03	5844'-5863'	2 JSPF	38 holes
7/18/03	5790'-5795'	4 JSPF	20 holes
7/18/03	5598'-5602'	2 JSPF	8 holes
7/18/03	5581'-5591'	2 JSPF	20 holes
7/18/03	5570'-5575'	2 JSPF	10 holes
7/18/03	5547'-5555'	2 JSPF	16 holes
7/18/03	5535'-5543'	2 JSPF	16 holes
7/18/03	5505'-5531'	2 JSPF	52 holes
7/18/03	5474'-5481'	2 JSPF	14 holes
7/18/03	5307'-5314'	2 JSPF	14 holes
7/18/03	5297'-5304'	2 JSPF	14 holes
7/18/03	5289'-5294'	2 JSPF	10 holes
7/18/03	5281'-5286'	2 JSPF	10 holes
7/18/03	5272'-5278'	2 JSPF	12 holes
7/18/03	5264'-5269'	2 JSPF	10 holes
7/19/03	5151'-5167'	2 JSPF	32 holes
7/19/03	5140'-5144'	4 JSPF	16 holes
7/19/03	5113'-5118'	4 JSPF	20 holes
7/19/03	4514'-4523'	4 JSPF	36 holes
7/19/03	4467'-4475'	4 JSPF	32 holes
7/19/03	4439'-4446'	4 JSPF	28 holes
7/19/03	4363'-4370'	4 JSPF	28 holes

NEWFIELD

Humpback 9-25-8-17

1966' FSL & 735' FEL

NE/SE Section 25-T8S-R17E

Uintah Co, Utah

API #43-047-34487; Lease #UTU-74870

MC 2/8/05

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL: OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> Injection well		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU74870
2. NAME OF OPERATOR: Newfield Production Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: HUMPBAC UNIT
3. ADDRESS OF OPERATOR: Route 3 Box 3630 CITY Myton STATE UT ZIP 84052		7. UNIT or CA AGREEMENT NAME: HUMPBAC UNIT
4. LOCATION OF WELL: FOOTAGES AT SURFACE: 784 FSL 632 FWL		8. WELL NAME and NUMBER: HUMPBAC 13A-25-8-17
5. PHONE NUMBER: 435.646.3721		9. API NUMBER: 4304734200
6. QTR/CTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SW/SW, 25, T8S, R17E		10. FIELD AND POOL, OR WILDCAT: Monument Butte
		COUNTY: Uintah
		STATE: Utah

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
	SubDate		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will _____	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK <input type="checkbox"/> PRODUCTION (START/STOP) <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	<input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TEMPORARILY ABANDON <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLAIR <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> WATER SHUT-OFF <input checked="" type="checkbox"/> OTHER: - Step Rate Test
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of Work Completion: 06/10/2005	<input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> CONVERT WELL TYPE		

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

A step rate test was conducted on the subject well on May 24, 2005. The formation parting pressure was not reached during the test. Newfield is requesting that the maximum allowable injection pressure (MAIP) be changed to the instantaneous shut in pressure or 1785 psi.

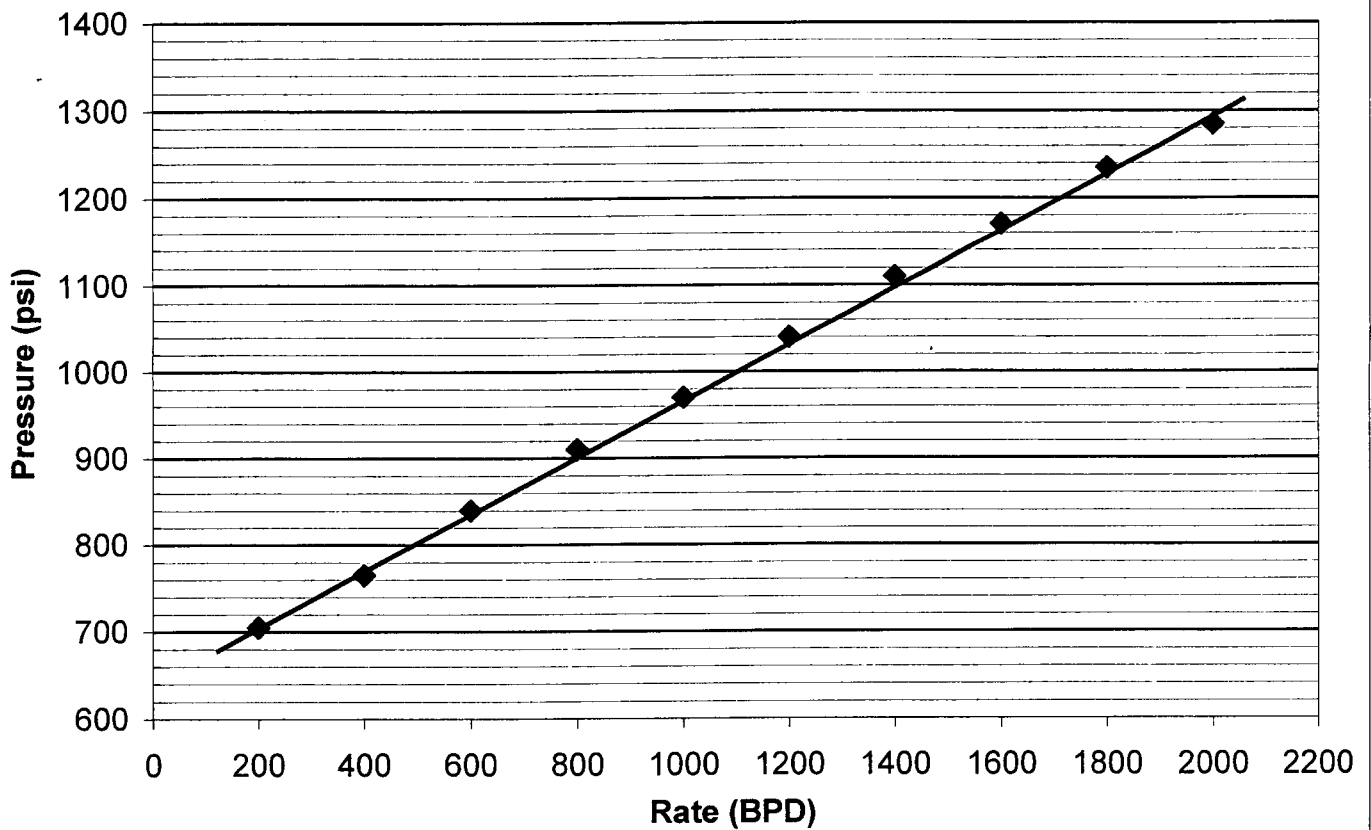
Accepted by the  
Utah Division of  
Oil, Gas and Mining  
FOR RECORD ONLY

NAME (PLEASE PRINT) Mike Guinn TITLE Engineer  
SIGNATURE  DATE 06/10/2005

(This space for State use only)

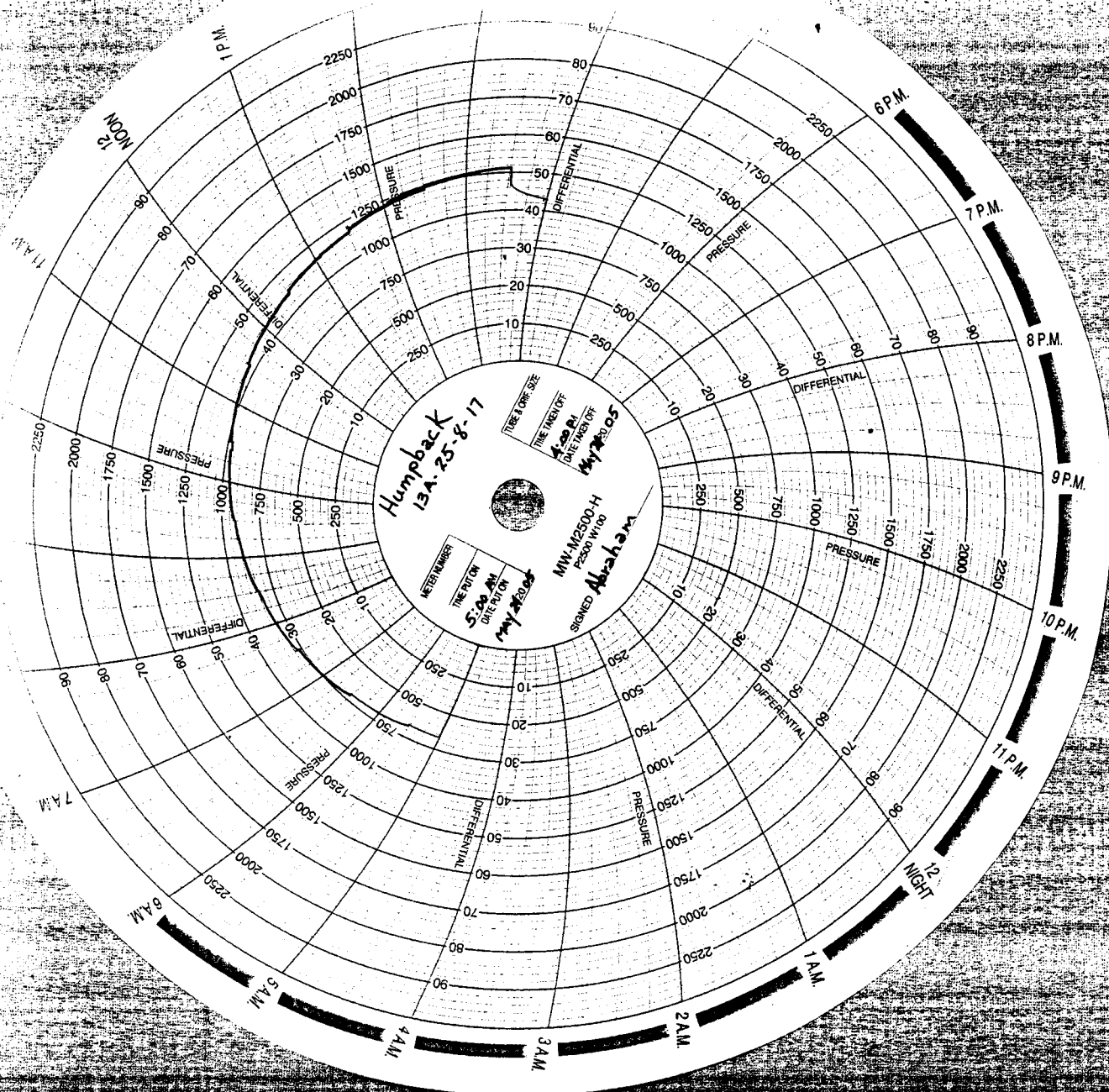
JUN 14 2005

**Humpback 13A-25-8-17**  
**Humpback Unit**  
**Step Rate Test**  
**May 24, 2005**



**Start Pressure:** 660 psi  
**Instantaneous Shut In Pressure (ISIP):** 1185 psi  
**Top Perforation:** 4490 feet  
**Fracture pressure (Pfp):** NA psi  
**FG:** NA psi/ft

Step	Rate(bpd)	Pressure(psi)
1	200	705
2	400	765
3	600	840
4	800	910
5	1000	970
6	1200	1040
7	1400	1110
8	1600	1170
9	1800	1235
10	2000	1285



4304734485  
8S 17E 25



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8

999 18<sup>TH</sup> STREET - SUITE 300

DENVER, CO 80202-2466

Phone 800-227-8917

<http://www.epa.gov/region08>

JUN 17 2005

Ref: 8P-W-GW

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Mr. Mike Guinn  
Vice President - Operations  
Newfield Production Co.  
Route 3 - Box 3630  
Myton, Utah 84502

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
**FOR RECORD ONLY**

RECEIVED

JUN 20 2005

OIL GAS & MINING

RE: ADDITIONAL WELL TO AREA PERMIT

Humpback Area Permit: UT20852-00000

**Humpback No. 1-25-8-17**

**Well ID: 20852-06512**

NE NE Sec. 25 - T8S - 17E

Uintah County, Utah

Dear Mr. Guinn:

The Newfield Production Co. (Newfield) request to convert a former Green River Formation oil well, the Humpback No. 1-25-8-17, to a Garden Gulch-Douglas Creek-Basal Carbonate Members of the Green River Formation enhanced recovery injection well in the Humpback Area Permit is hereby authorized. The proposed Humpback No. 1-25-8-17 Class II enhanced recovery injection well is within the exterior boundary of the Humpback Area Permit UT20852-00000; is within the exterior boundary of the Uintah & Ouray Indian Reservation; and the addition is being made under the authority of 40 CFR § 144.33 (c) and the terms of the Area Permit. Unless specifically mentioned in the enclosed Authorization For An Additional Well, all terms and conditions of the original Area Permit will apply to the conversion, operation, monitoring, and plugging and abandonment of the Humpback No. 1-25-8-17.



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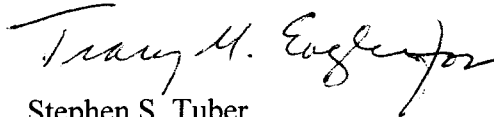
Prior to beginning injection, the Environmental Protection Agency (EPA) requires that Newfield submit for review and approval (1) the results of a **Part I (Internal) mechanical integrity test (MIT)**, (2) a **pore pressure** calculation of the injection interval, (3) an **EPA Form No. 7520-12** (Well Rework Record, enclosed).

Part II. Section C. Condition No. 5. (Injection Pressure Limitation), Humpback Area Permit (UT20852-00000) , cites the method by which the maximum allowable injection pressure (MAIP) shall be calculated for each Additional Well to the Humpback Area Permit. As a result, the MAIP for the Humpback No. 1-25-8-17 shall not exceed **1118 psig**. The Humpback Area Permit, Part II. C. 5., provides an opportunity for the permittee to request an increase, or decrease, in the initial maximum surface injection pressure.

Please be aware that Newfield does not have authorization to begin injection into the Humpback No. 1-25-8-17 until the Prior to Commencing Injection requirements, listed above, have been submitted and evaluated by the EPA, and Newfield has received written authorization to begin injection from the Assistant Regional Administrator, or the Assistant Regional Administrator's authorized representative.

If Newfield has any questions, please call Mr. Dan Jackson at (800) 227-8917 (Ext. 6155), or in the Denver area at (303) 312-6155. Please submit the required pre-authorization to inject data to **ATTENTION: DAN JACKSON**, at the letterhead address, citing **MAIL CODE: 8P-W-GW** very prominently.

Sincerely,



Stephen S. Tuber  
Assistant Regional Administrator  
Office of Partnerships and Regulatory Assistance

enclosures: Authorization For Conversion of An Additional Well  
EPA Form No. 7520-12 (Well Rework Record)  
Guidance No. 39: Part I Mechanical Integrity (Internal)  
Schematic Diagram: Proposed Conversion

cc w/ enclosures: Maxine Natchees  
Chairperson  
Uintah & Ouray Business Committee  
Ute Indian Tribe

Elaine Willie  
Environmental Coordinator  
Ute Indian Tribe

Chester Mills  
Superintendent  
Bureau of Indian Affairs  
Uintah & Ouray Indian Agency

David Gerbig  
Operations Engineer  
Newfield Production Company  
Denver, CO 80202

Gil Hunt  
Technical Services Manager  
State of Utah - Natural Resources

Kirk Fleetwood  
Petroleum Engineer  
Bureau of Land Management  
Vernal District



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8  
999 18<sup>TH</sup> STREET - SUITE 300  
DENVER, CO 80202-2466  
Phone 800-227-8917  
<http://www.epa.gov/region08>

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JUN 20 2005

DIV. OF OIL & GAS LEASING

AUTHORIZATION FOR AN ADDITIONAL WELL  
TO THE  
HUMPBAC AREA PERMIT: UT20852-00000

The Environmental Protection Agency (EPA) authorizes the inclusion of an additional enhanced recovery injection well to the Humpback Area Permit No. UT20852-00000, as authorized by 40 CFR § 144.33 (c). The additional well is described as:

**WELL NAME: HUMPBAC NO. 1-25-8-17**

**WELL PERMIT NUMBER: UT20852-06512**

SURFACE LOCATION: 742' FNL & 903 FEL (NE NE)  
Sec. 25 - T8S - R17E  
Uintah County, Utah.

This well is subject to all provisions of the original Humpback Area Permit No. UT20852-00000, and subsequent Modifications, unless specifically detailed below:

**UNDERGROUND SOURCE OF DRINKING WATER (USDW):** The base of the USDW (Total Dissolved Solids less than 10,000 mg/l) occurs within the Uinta Formation **less than 210 feet** from ground level (GL). The source for the location of the base of the USDW is the STATE OF UTAH: PUBLICATION NO. 2. BASE OF MODERATELY SALINE GROUND WATER IN THE UINTA BASIN, UTAH. Surface casing was set at **311 feet** kelly bushing (KB) and cemented to the surface.

Reference: <http://NRWRT1.NR.STATE.UT.US...> Water Rights...Queries...POD: Within the one-quarter (1/4) mile Area-of-Review (AOR) around the Humpback No. 1-25-8-17 there are no reservoirs, streams, springs or wells.

**WATER ANALYSES:**

Produced Green River Formation Water: (7/31/04) **10,797 mg/l TDS.**

Source Water: Johnson Water District Reservoir. (3/31/04) **400 mg/l TDS.**

Blended Injectate: (7/16/01) **6088 mg/l TDS.**



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### **CONFINING ZONE REVIEW: HUMPBAC NO. 1-25-8-17.**

The EPA has authorized the gross interval from the top of the Garden Gulch Member to the top of the Wasatch as the enhanced recovery injection interval within the Humpback Area Permit. Overlying the top of the Garden Gulch Member (4116 feet), in the Humpback No. 1-25-8-17, are twenty-two (22) feet of Green River Formation black, slightly silty, impervious shale which forms an effective lithologic **confining zone 4094 feet to 4116 feet.**

Cement Bond Log (CBL) analysis does not identify any 80% bond index cement bond within the confining zone.

### **INJECTION ZONE REVIEW: HUMPBAC NO. 1-25-8-17.**

The Humpback Final Area Permit (Effective October 8, 1998) authorized injection into the Douglas Creek Member of the Green River Formation. By Major Permit Modification No. 1 (Effective September 9, 2003), the EPA authorized the gross Green River Formation Garden Gulch-Douglas Creek-Basal Carbonate Members as the enhanced recovery injection interval for the Boundary Area Permit. This Modification also recognized the **Federal No. 1-26** (NE NW Sec. 26 - T8S - R17E), UIC Permit No. UT20702-04671, as the **TYPE WELL** for identifying the tops of the Garden Gulch Member, the Douglas Creek Member, the Basal Carbonate Member, the top of the Wasatch Formation and the "Confining Zone" overlying the top of the Garden Gulch Member.

**The authorized injection zone for the Humpback No. 1-25-8-17 will be from the Garden Gulch Member (4116 feet) to the top of the Wasatch Formation (Estimated to be 6435 feet).**

Lithologically, the gross authorized enhanced recovery injection interval, Garden Gulch to the top of the Wasatch Formation, is fluvial and lacustrine shale, fluvial and lacustrine sandstone, lacustrine marlstone, and limestone. The Uinta and Green River Formations are predominantly non-lacustrine fluvial shale and sandstone on the basin margins, whereas lacustrine deposition predominates in the central basin area for these two formations. The Wasatch Formation is predominantly fluvial, except for increasing minor lacustrine deposition in the central basin area.

### **WELL CONSTRUCTION REVIEW: HUMPBAC NO. 1-25-8-17.**

**SURFACE CASING:** 8-5/8 inch casing is set at 311 feet in a 12-1/4 inch hole, using 150 sacks of Class "G" cement circulated to the surface. The base of the USDW is less than 210 feet from ground level.

LONGSTRING CASING: 5-1/2 inch casing is set at 6355 feet kelly bushing (KB) in a 7-7/8 inch hole, and cemented with 310 sacks of Premium Lite II mixed and 400 sacks of 50/50 Pozmix.

The operator identifies the top of cement at 410 feet.

The EPA analysis of the CBL/GR identifies continuous 80% cement bond index from 4140 feet to 4286 feet.

An EPA analysis of the Humpback No. 1-25-8-17 CBL/GR did not identify continuous 80% bond index cement bond across the Garden Gulch Member confining zone, pursuant to standards of Region 8 GROUND WATER SECTION GUIDANCE NO. 34: Cement Bond Logging Techniques and Interpretation. Therefore, **it has been determined that the cement in this well may not provide an effective barrier** to upward movement of fluids through vertical channels adjacent to the wellbore, pursuant to 40 CFR 146.8 (a) (2).

## PART II. A. CONSTRUCTION REQUIREMENTS FOR ADDITIONAL WELLS

### Tubing and Packer:

(Condition 3)

For injection purposes, the **Humpback No. 1-25-8-17** shall be equipped with 2-7/8 tubing with a packer to be set at a depth no higher than 100 feet above the top perforation.

### Formation Testing and Logging

(Condition 6)

- (a) Upon conversion of the **Humpback No. 1-25-8-17**, the permittee is required to determine the injection zone **fluid pore pressure** (static bottom hole pressure) prior to commencement of enhanced recovery injection operation. The results of this test shall be submitted to the EPA.
- (b) A **Step-Rate Test (SRT)** shall be performed on the **Humpback No. 1-25-8-17** within three (3) to six (6) months after injection operations are initiated and the results submitted to the EPA. The permittee may contact the EPA prior to conducting the SRT to acquire the most current Guidance for conducting the SRT.

Because the Cement Bond Log (CBL) submitted for the Humpback No. 1-25-8-17 did not show any 80% bond index cement bond within the Confining Zone overlying the top of the Garden Gulch Member, the operator shall be required to demonstrate Part II (External) Mechanical Integrity (MI) within a 180-day Limited Authorization to Inject. The Part II MI may be demonstrated by a Temperature Log, Noise Log, Oxygen Activation Log, or Region VIII may

accept the results from a Radioactive Tracer Survey (RATS) under certain circumstances. The Limited Authorization to Inject is for the purpose of stabilizing the injection zone prior to a Part II MI demonstration.

## **PART II. B.**

### **Corrective Action**

As of June 2005, there are three (3) active Green River oil wells within the one-quarter (1/4) mile radius around the Humpback No. 1-25-8-17. No wells need Corrective Action.

#### **Garden Gulch-Douglas Creek Members Oil Wells:**

<b><u>Humpback No. 8-25-8-17:</u></b>	<b><u>SE NE Sec. 25 -T8S-R17E</u></b>
Top Garden Gulch Member:	4098 feet
Garden Gulch Confining Zone:	4072 feet - 4098 feet
Top 80% EPA Cement Bond:	3980 feet - 4047 feet
	4126 feet - 4180 feet
Top Douglas Creek Member:	5048 feet
CBL Total Depth:	6261 feet
Top Basal Carbonate Member:	6248 feet (Est.)
Total Depth (Driller):	6340 feet in Basal Carbonate.

The 26-foot confining shale overlying the top of the Garden Gulch Member is not protected by 80% bond index cement bond. This lack of confining zone annulus cement may not prevent upward movement of injected fluids through vertical channels adjacent to the well bore. The permittee will be required to inspect the surface of this location for fluid leaks on a weekly basis. **Any observation of surface leakage may be considered as noncompliance with the Humpback No. 1-25 -8-17 Permit.** The Humpback No. 1-25-8-17 shall suspend operations immediately, and will stay suspended until the noncompliance has been resolved, and renewed injection has been approved in writing by the Director.

<b><u>Monument Federal No. 31-25-8-17</u></b>	<b><u>NW NE Sec. 25 - T8S - R17E</u></b>
Top Garden Gulch Member:	4107 feet
Garden Gulch Confining Zone:	4082 feet - 4107 feet
Top 80% EPA Cement Bond:	4236 feet - 4458 feet
Top Douglas Creek Member:	5000 feet
CBL Total Depth:	6167 feet
Total Depth (Driller):	6226 feet

The 25-foot confining shale overlying the top of the Garden Gulch Member is not protected by 80% bond index cement bond. This lack of confining zone annulus

cement may not prevent upward movement of injected fluids through vertical channels adjacent to the well bore. The permittee will be required to inspect the surface of this location for fluid leaks on a weekly basis. **Any observation of surface leakage may be considered as noncompliance with the Humpback No. 1-25 -8-17 Permit.** The Humpback No. 1-25-8-17 shall suspend operations immediately, and will stay suspended until the noncompliance has been resolved, and renewed injection has been approved in writing by the Director.

**Humpback No. 16-24-8-17**

**SE SE Sec. 24 - T8S - R17E**

Top Garden Gulch Member:	4118 feet
Garden Gulch Confining Zone:	4099 feet - 4118 feet
Top 80% EPA Cement Bond:	4210 feet - 4 228 feet
Top Douglas Creek Member:	5124 feet
CBL Total Depth:	6278 feet
Total Depth (Driller):	6375 feet

The 19-foot confining shale overlying the top of the Garden Gulch Member is not protected by 80% bond index cement bond. This lack of confining zone annulus cement may not prevent upward movement of injected fluids through vertical channels adjacent to the well bore. The permittee will be required to inspect the surface of this location for fluid leaks on a weekly basis. **Any observation of surface leakage may be considered as noncompliance with the Humpback No. 1-25 -8-17 Permit.** The Humpback No. 1-25-8-17 shall suspend operations immediately, and will stay suspended until the noncompliance has been resolved, and renewed injection has been approved in writing by the Director.

PART II. C.

Prior to Commencing Injection (Additional Wells)

(Condition 2)

**Humpback No. 1-25-8-17:** This document is being issued without authority to inject. Prior to beginning injection, the operator is required to submit the following information for EPA review and written approval:

- A successful **mechanical integrity test (MIT)** demonstrating Part I Internal MI (Enclosed);
- a **pore pressure calculation** of the proposed injection zone; and an
- EPA Form No. 7520-12 (**Well Rework Record**, enclosed).

Injection Interval

(Condition 3)

Injection shall be limited to the gross Garden Gulch, Douglas Creek and Basal Carbonate Members of the Green River Formation from 4116 feet (KB) to the top of the Wasatch Formation, estimated to be 6435 feet (KB).

#### Injection Pressure Limitation

(Condition 4)

Pursuant to Final Area Permit UT20852-00000, Part II. Section C. 5. (b). the maximum allowable injection pressure (MAIP) shall not exceed 1752 psig. Until such time that a Step-Rate Test (SRT) has been performed, reviewed and approved by the EPA, the initial MAIP for the Humpback No. 1-25-8-17 shall not exceed **1180 psig**.

A fracture gradient (FG) of 0.660 psi/ft is compatible with nearly **all SRTs** in the Humpback Area Permit.

Until such time that a step-rate injectivity test (SRT) has been performed, reviewed, and approved by the EPA, the initial maximum allowable injection pressure (**MAIP**) for the **Humpback No. 1-25-8-17** shall not exceed **1180 psig**.

$$\begin{aligned} \text{MAIP} &= [\text{FG} - (0.433)(\text{SG})] D \\ \text{FG} &= 0.660 \text{ psi/ft} \\ \text{SG} &= 1.005 \\ D &= 5245 \text{ feet. Top perforation.} \end{aligned}$$

$$\text{MAIP} = [0.660 - (0.433)(1.005)] 5245$$

$$\text{MAIP} = 1179 \text{ psig, but rounded up to } \mathbf{1180 \text{ psig.}}$$

Part II. C. 5. (b) Final Area Permit (UT20852-00000), has a provision whereby the operator may request an increase, or decrease, in the maximum surface injection pressure.

#### **PART II. F.**

#### Demonstration of Financial Responsibility:

(Condition 1)

The current plugging and abandonment cost for the Humpback No.1-25-8-17 is estimated to be \$33,025.00. The applicant has chosen to demonstrate financial responsibility via a **Financial Statement** that has been reviewed and approved by the EPA.

### PART III. E.

#### Reporting of Noncompliance:

(Condition 10)

- (a) Anticipated Noncompliance. The operator shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- (b) Compliance Schedules. Reports of compliance or noncompliance with, or any progress on, interim and final requirements contained in any compliance schedule of this Permit shall be submitted **no later than thirty (30) days following each schedule date.**
- (c) Written Notice of any noncompliance which may endanger health or the environment **shall be reported to the Director within five (5) days** of the time the operator becomes aware of the noncompliance. The written notice shall contain a description of the noncompliance and its cause; the period of noncompliance including dates and times; if the noncompliance has not been corrected the anticipated time it is expected to continue; and steps taken or planned to prevent or reduce recurrence of the noncompliance.

#### Twenty-Four Hour Noncompliance Reporting:

(Condition 11)

**The operator shall report to the Director any noncompliance which may endanger health or environment.** Information shall be provided, either orally or by leaving a message, within twenty-four (24) hours from the time the operator becomes aware of the circumstances by telephoning **1-800-227-8917** and asking for the **EPA Region VIII UIC Program Compliance and Enforcement Director**, or by contacting the **Region VIII Emergency Operations Center at 303-293-1788** if calling from outside EPA Region VIII. The following information shall be included in the verbal report:

- (a) Any monitoring or other information which indicates that any contaminant may cause an endangerment to a USDW.
- (b) Any noncompliance with a Permit condition or malfunction of the injection system which may cause fluid migration into or between underground sources of drinking water.

#### Oil Spill and Chemical Release Reporting:

(Condition 12)

The operator shall comply with all other reporting requirements related to oil spills and chemical releases or other potential impacts to human health or the environment by contacting the **National Response Center (NRC) 1-800-424-8802 or 202-267-2675**, or through the NRC website at **<http://www.nrc.uscg.mil/index.htm>**.

Other Noncompliance:

(Condition 13)

The operator shall report all other instances of noncompliance not otherwise reported at the time monitoring reports are submitted. The reports shall contain the information listed in Part III. 10. c. ii. of this Permit.

Other Information: Where the operator becomes aware that he failed to submit any relevant facts in the Permit application, or submitted incorrect information in a Permit application, or in any report to the Director, the operator shall submit such correct facts or information within two (2) weeks of the time such information became known to him.

**APPENDIX C**

PLUGGING AND ABANDONMENT: The Plugging and Abandonment (P&A) Plan (Application Attachment Q-2) submitted by the applicant has been reviewed and approved by the EPA. The P&A Plan is consistent with EPA requirements to protect all USDWs. The permittee will place 9.2 ppg plugging gel or bentonite mud between all cement plugs.

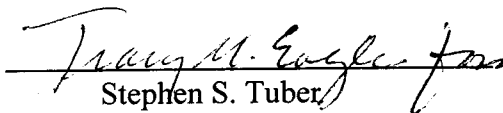
PLUG NO. 1: Set a cast iron bridge plug (CIBP) at 5150 feet. Place 100 feet of Class "G" cement on top of CIBP.

PLUG NO. 2: Set a cement plug inside of the 5-1/2 inch casing from 2000 feet to 2200 feet over a water zone.

PLUG NO. 3: Perforate 4 JSPF at 361 feet. Circulate Class "G" cement down the 5-1/2 inch casing and up the 5-1/2 inch X 8-5/8 inch annulus to the surface.

This authorization for well conversion of the Humpback No. 1-25-8-17 to an injection well becomes effective upon signature.

Date: 6/14/05



Stephen S. Tuber  
Assistant Regional Administrator  
Office of Partnerships and Regulatory Assistance



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500  
DENVER, COLORADO 80202-2466

SUBJECT: GROUND WATER SECTION GUIDANCE NO. 39

Pressure testing injection wells for Part I (internal)  
Mechanical Integrity

FROM: Tom Pike, Chief  
UIC Direct Implementation Section

TO: All Section Staff  
Montana Operations Office

Introduction

The Underground Injection Control (UIC) regulations require that an injection well have mechanical integrity at all times (40 CFR 144.28 (f)(2) and 40 CFR 144.51 (q)(1)). A well has mechanical integrity (40 CFR 146.8) if:

- (1) There is no significant leak in the tubing, casing or packer; and
- (2) There is no significant fluid movement into an underground source of drinking water (USDW) through vertical channels adjacent to the injection wellbore.

Definition: Mechanical Integrity Pressure Test for Part I. A pressure test used to determine the integrity of all the downhole components of an injection well, usually tubing, casing and packer. It is also used to test tubing cemented in the hole by using a tubing plug or retrievable packer. Pressure tests must be run at least once every five years. If for any reason the tubing/packer is pulled, the injection well is required to pass another mechanical integrity test of the tubing casing and packer prior to recommencing injection regardless of when the last test was conducted. Tests run by operators in the absence of an EPA inspector must be conducted according to these procedures and recorded on either the attached form or an equivalent form containing the necessary information. A pressure recording chart documenting the actual annulus test pressures must be attached to the form.

This guidance addresses making a determination of Part I of Mechanical Integrity (no leaks in the tubing, casing or packer). The Region's policy is: 1) to determine if there are significant leaks in the tubing, casing or packer; 2) to assure that the casing can withstand pressure similar to that which

would be applied if the tubing or packer fails; 3) to make the Region's test procedure consistent with the procedures utilized by other Region VIII Primacy programs; and 4) to provide a procedure which can be easily administered and is applicable to all class I and II wells. Although there are several methods allowed for determining mechanical integrity, the principal method involves running a pressure test of the tubing/casing annulus. Region VIII's procedure for running a pressure test is intended to aid UIC field inspectors who witness pressure tests for the purpose of demonstrating that a well has Part I of Mechanical Integrity. The guidance is also intended as a means of informing operators of the procedures required for conducting the test in the absence of an EPA inspector.

### Pressure Test Description

#### Test Frequency

The mechanical integrity of an injection well must be maintained at all times. Mechanical integrity pressure tests are required at least every five (5) years. If for any reason the tubing/packer is pulled, however, the injection well is required to pass another mechanical integrity test prior to recommencing injection regardless of when the last test was conducted. The Regional UIC program must be notified of the workover and the proposed date of the pressure test. The well's test cycle would then start from the date of the new test if the well passes the test and documentation is adequate. Tests may be required on a more frequent basis depending on the nature of the injectate and the construction of the well (see Section guidance on MITs for wells with cemented tubing and regulations for Class I wells).

Region VIII's criteria for well testing frequency is as follows:

1. Class I hazardous waste injection wells; initially [40 CFR 146.68(d)(1)] and annually thereafter;
2. Class I non-hazardous waste injection wells; initially and every two (2) years thereafter, except for old permits (such as the disposal wells at carbon dioxide extraction plants which require a test at least every five years);
3. Class II wells with tubing, casing and packer; initially and at least every five (5) years thereafter;
4. Class II wells with tubing cemented in the hole; initially and every one (1) or two (2) years thereafter

depending on well specific conditions (See Region VIII UIC Section Guidance #36);

5. Class II wells which have been temporarily abandoned (TAd) must be pressure tested after being shut-in for two years; and
6. Class III uranium extraction wells; initially.

#### Test Pressure

To assure that the test pressure will detect significant leaks and that the casing is subjected to pressure similar to that which would be applied if the tubing or packer fails, the tubing/casing annulus should be tested at a pressure equal to the maximum allowed injection pressure or 1000 psig whichever is less. The annular test pressure must, however, have a difference of at least 200 psig either greater or less than the injection tubing pressure. Wells which inject at pressures of less than 300 psig must test at a minimum pressure of 300 psig, and the pressure difference between the annulus and the injection tubing must be at least 200 psi.

#### Test Criteria

1. The duration of the pressure test is 30 minutes.
2. Both the annulus and tubing pressures should be monitored and recorded every five (5) minutes.
3. If there is a pressure change of 10 percent or more from the initial test pressure during the 30 minute duration, the well has failed to demonstrate mechanical integrity and should be shut-in until it is repaired or plugged.
4. A pressure change of 10 percent or more is considered significant. If there is no significant pressure change in 30 minutes from the time that the pressure source is disconnected from the annulus, the test may be completed as passed.

#### Recordkeeping and Reporting

The test results must be recorded on the attached form. The annulus pressure should be recorded at five (5) minute intervals. Tests run by operators in the absence of an EPA inspector must be conducted according to these procedures and recorded on the attached form or an equivalent form and a pressure recording

chart documenting the actual annulus test pressures must be attached to the submittal. The tubing pressure at the beginning and end of each test must be recorded. The volume of the annulus fluid bled back at the surface after the test should be measured and recorded on the form. This can be done by bleeding the annulus pressure off and discharging the associated fluid into a five gallon container. The volume information can be used to verify the approximate location of the packer.

#### Procedures for Pressure Test

1. Scheduling the test should be done at least two (2) weeks in advance.
2. Information on the well completion (location of the packer, location of perforations, previous cement work on the casing, size of casing and tubing, etc.) and the results of the previous MIT test should be reviewed by the field inspector in advance of the test. Regional UIC Guidance #35 should also be reviewed. Information relating to the previous MIT and any well workovers should be reviewed and taken into the field for verification purposes.
3. All Class I wells and Class II SWD wells should be shut-in prior to the test. A 12 to 24-hour shut-in is preferable to assure that the temperature of the fluid in the wellbore is stable.
4. Class II enhanced recovery wells may be operating during the test, but it is recommended that the well be shut-in if possible.
5. The operator should fill the casing/tubing annulus with inhibited fluid at least 24 hours in advance, if possible. Filling the annulus should be undertaken through one valve with the second valve open to allow air to escape. After the operator has filled the annulus, a check should be made to assure that the annulus will remain full. If the annulus can not maintain a full column of fluid, the operator should notify the Director and begin a rework. The operator should measure and report the volume of fluid added to the annulus. If not already the case, the casing/tubing valves should be closed, at least, 24 hours prior to the pressure test.

Following steps are at the well:

6. Read tubing pressure and record on the form. If the

well is shut-in, the reported information on the actual maximum operating pressure should be used to determine test pressures.

7. Read pressure on the casing/tubing annulus and record value on the form. If there is pressure on the annulus, it should be bled off prior to the test. If the pressure will not bleed-off, the guidance on well failures (Region VIII UIC Section Guidance #35) should be followed.
8. Ask the operator for the date of the last workover and the volume of fluid added to the annulus prior to this test and record information on the form.
9. Hook-up well to pressure source and apply pressure until test value is reached.
10. Immediately disconnect pressure source and start test time (If there has been a significant drop in pressure during the process of disconnection, the test may have to be restarted). The pressure gages used to monitor injection tubing pressure and annulus pressure should have a pressure range which will allow the test pressure to be near the mid-range of the gage. Additionally, the gage must be of sufficient accuracy and scale to allow an accurate reading of a 10 percent change to be read. For instance, a test pressure of 600 psi should be monitored with a 0 to 1000 psi gage. The scale should be incremented in 20 psi increments.
11. Record tubing and annulus pressure values every five (5) minutes.
12. At the end of the test, record the final tubing pressure.
13. If the test fails, check the valves, bull plugs and casing head close up for possible leaks. The well should be retested.
14. If the second test indicates a well failure, the Region should be informed of the failure within 24 hours by the operator, and the well should be shut-in within 48 hours per Headquarters guidance #76. A follow-up letter should be prepared by the operator which outlines the cause of the MIT failure and proposes a potential course of action. This report should be submitted to EPA within five days.

15. Bleed off well into a bucket, if possible, to obtain a volume estimate. This should be compared to the calculated value obtained using the casing/tubing annulus volume and fluid compressibility values.
16. Return to office and prepare follow-up.

#### Alternative Test Option

While it is expected that the test procedure outlined above will be applicable to most wells, the potential does exist that unique circumstances may exist for a given well that precludes or makes unsafe the application of this test procedure. In the event that these exceptional or extraordinary conditions are encountered, the operator has the option to propose an alternative test or monitoring procedures. The request must be submitted by the operator in writing and must be approved in writing by the UIC-Implementation Section Chief or equivalent level of management.

Attachment

# Mechanical Integrity Test

## Casing or Annulus Pressure Mechanical Integrity Test

U.S. Environmental Protection Agency  
Underground Injection Control Program, UIC Direct Implementation Program 8P-W-GW  
999 18<sup>th</sup> Street, Suite 500 Denver, CO 80202-2466

EPA Witness: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Test conducted by: \_\_\_\_\_

Others present: \_\_\_\_\_

Well Name: _____	Type: ER SWD	Status: AC TA UC
Field: _____		
Location: _____	Sec: _____ T _____ N/S R _____ E/W	County: _____ State: _____
Operator: _____		
Last MIT: ____/____/____	Maximum Allowable Pressure: _____	PSIG

Is this a regularly scheduled test? ☐ Yes ☐ No

Initial test for permit? ☐ Yes ☐ No

Test after well rework? ☐ Yes ☐ No

Well injecting during test? ☐ Yes ☐ No If Yes, rate: \_\_\_\_\_ bpd

Pre-test casing/tubing annulus pressure: \_\_\_\_\_ psig

MIT DATA TABLE	Test #1	Test #2	Test #3
<b>TUBING PRESSURE</b>			
Initial Pressure	psig	psig	psig
End of test pressure	psig	psig	psig
<b>CASING / TUBING ANNULUS PRESSURE</b>			
0 minutes	psig	psig	psig
5 minutes	psig	psig	psig
10 minutes	psig	psig	psig
15 minutes	psig	psig	psig
20 minutes	psig	psig	psig
25 minutes	psig	psig	psig
30 minutes	psig	psig	psig
minutes	psig	psig	psig
minutes	psig	psig	psig
<b>RESULT</b>	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

Does the annulus pressure build back up after the test? ☐ Yes ☐ No

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460**WELL REWORK RECORD**

NAME AND ADDRESS OF PERMITTEE

NAME AND ADDRESS OF CONTRACTOR

LOCATE WELL AND OUTLINE UNIT ON  
SECTION PLAT — 640 ACRES

N									
S									

W E

STATE

COUNTY

PERMIT NUMBER

SURFACE LOCATION DESCRIPTION

\_\_\_\_ 1/4 of \_\_\_\_ 1/4 of \_\_\_\_ 1/4 of \_\_\_\_ 1/4 of Section \_\_\_\_ Township \_\_\_\_ Range \_\_\_\_

LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT

Surface

Location \_\_\_\_ ft. from (N/S) \_\_\_\_ Line of quarter section

and \_\_\_\_ ft. from (E/W) \_\_\_\_ Line of quarter section

**WELL ACTIVITY**

- ☐ Brine Disposal  
☐ Enhanced Recovery  
☐ Hydrocarbon Storage

Lease Name

Total Depth Before Rework

Total Depth After Rework

Date Rework Commenced

Date Rework Completed

**TYPE OF PERMIT**

- ☐ Individual  
☐ Area  
 Number of Wells \_\_\_\_

Well Number

**WELL CASING RECORD — BEFORE REWORK**

Casing		Cement		Perforations		Acid or Fracture Treatment Record
Size	Depth	Sacks	Type	From	To	

**WELL CASING RECORD — AFTER REWORK (Indicate Additions and Changes Only)**

Casing		Cement		Perforations		Acid or Fracture Treatment Record
Size	Depth	Sacks	Type	From	To	

DESCRIBE REWORK OPERATIONS IN DETAIL  
USE ADDITIONAL SHEETS IF NECESSARY**WIRE LINE LOGS, LIST EACH TYPE**

	Log Types		Logged Intervals

**CERTIFICATION**

*I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32).*

NAME AND OFFICIAL TITLE (Please type or print)

SIGNATURE

DATE SIGNED

# Humpback 1-25-8-17

Spud Date: 5/22/03  
Put on Production: 6/18/03  
GL: 5009' KB: 5021'

Initial Production: 179 BOPD,  
221 MCFD, 12 BWPD

## Proposed Injection Wellbore Diagram

### SURFACE CASING

CSG SIZE: 8 5/8"  
GRADE: J-55  
WEIGHT: 24#  
LENGTH: 7 jts. (301.05') *Base U90W3 5210'*  
DEPTH LANDED: 311.05' KB  
HOLE SIZE: 12 1/4"  
CEMENT DATA: 150 sxs Class "G" cmt, est 4 bbls cmt to surf.

### PRODUCTION CASING

CSG SIZE: 5 1/2"  
GRADE: J-55  
WEIGHT: 15.5# *Confining Zone 4094'*  
LENGTH: 151 jts. (6357.0') *Garden Gulch 4116'*  
DEPTH LANDED: 6355.06' KB  
HOLE SIZE: 7 7/8"  
CEMENT DATA: 310 sxs Prem. Lite II mixed & 400 sxs 50/50 POZ.  
CEMENT TOP AT: 410'

### TUBING

SIZE/GRADE/WT: 2 7/8" / J-55 / 6.5#  
NO. OF JOINTS: 197 jts (6141.11')  
TUBING ANCHOR: 6153.11' KB  
NO. OF JOINTS: 1 jts (30.44')  
SEATING NIPPLE: 2 7/8" (1.10')  
SN LANDED AT: 6186.35' KB  
NO. OF JOINTS: 2 jts (62.52')  
TOTAL STRING LENGTH: EOT @ 6250.42' KB

### FRAC JOB

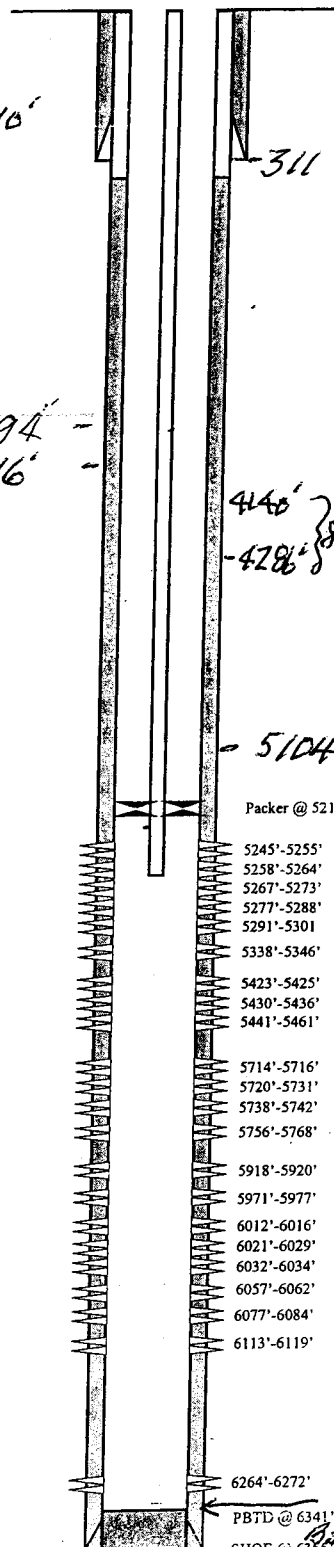
6/12/03 6057'-6272' **Frac BS and CP3 sands as follows:**  
70,653# 20/40 sand in 577 Bbls Viking I-25 fluid. Treated @ avg. press of 1200 psi w/ avg rate of 24.5 BPM. ISIP: 1400 psi. Calc flush: 6054 gal. Actual flush: 6048 gal.

6/12/03 5918'-6034' **Frac CP.5 and CP2 sands as follows:**  
80,932# 20/40 sand in 621 Bbls Viking I-25 fluid. Treated @ avg. press of 1300 psi w/ avg. rate of 24.6 BPM. ISIP: 1500 psi. Calc flush: 5915 gal. Actual flush: 5838 gal.

6/13/03 5714'-5768' **Frac LODC sands as follows:**  
100,701# 20/40 sand in 724 Bbls Viking I-25 fluid. Treated @ avg. press of 1750 psi w/ avg. rate of 24.7 BPM. ISIP: 1960 psi. Calc flush: 5711 gal. Actual flush: 5586 gal.

6/13/03 5423'-5461' **Frac B3 sands as follows:**  
100,095# 20/40 sand in 725 Bbls Viking I-25 fluid. Treated @ avg. press of 1350 psi w/ avg. rate of 25 BPM. ISIP: 1710 psi. Calc flush: 5420 gal. Actual flush: 5376 gal.

6/13/03 5245'-5346' **Frac B.4 and C sands as follows:**  
161,728# 20/40 sand in 1166 Bbls Viking I-25 fluid. Treated @ avg. press of 1285 psi w/ avg rate of 24.2 BPM. ISIP: 1500 psi. Calc flush: 5242 gal. Actual flush: 5166 gal.



### PERFORATION RECORD

Date	Depth Range	Tool Joint	Holes
6/11/03	6264'-6272'	4 JSPF	32 holes
6/11/03	6113'-6119'	4 JSPF	24 holes
6/11/03	6077'-6084'	4 JSPF	28 holes
6/11/03	6057'-6062'	4 JSPF	20 holes
6/12/03	6032'-6034'	4 JSPF	8 holes
6/12/03	6021'-6029'	4 JSPF	32 holes
6/12/03	6012'-6016'	4 JSPF	16 holes
6/12/03	5971'-5977'	4 JSPF	24 holes
6/12/03	5918'-5920'	4 JSPF	8 holes
6/12/03	5756'-5768'	4 JSPF	48 holes
6/12/03	5738'-5742'	4 JSPF	16 holes
6/12/03	5720'-5731'	4 JSPF	44 holes
6/12/03	5714'-5716'	4 JSPF	8 holes
6/13/03	5441'-5461'	4 JSPF	80 holes
6/13/03	5430'-5436'	4 JSPF	24 holes
6/13/03	5423'-5425'	4 JSPF	8 holes
6/13/03	5338'-5346'	4 JSPF	32 holes
6/13/03	5291'-5301'	4 JSPF	40 holes
6/13/03	5277'-5288'	4 JSPF	44 holes
6/13/03	5267'-5273'	4 JSPF	24 holes
6/13/03	5258'-5264'	4 JSPF	24 holes
6/13/03	5245'-5255'	4 JSPF	40 holes



Inland Resources Inc.

Humpback 1-25-8-17

742' FNL & 903' FEL

NE/NE Section 25-T8S-R17E

Uintah Co, Utah

API #43-047-34485 ; Lease #UTU-74870

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER:  
UTU67845

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:  
HUMPBAC UNIT

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER ☐ Injection well

8. WELL NAME and NUMBER:  
BALCRON MONUMENT FED 34-25

2. NAME OF OPERATOR:  
Newfield Production Company

9. API NUMBER:  
4304732670

3. ADDRESS OF OPERATOR: Route 3 Box 3630 CITY Myton STATE UT ZIP 84052 PHONE NUMBER 435.646.3721

10. FIELD AND POOL, OR WILDCAT:  
Monument Butte

4. LOCATION OF WELL:  
FOOTAGES AT SURFACE: 0800 FSL 2100 FEL

COUNTY: Uintah

OTR/OTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SW/SE, 25, T8S, R17E

STATE: Utah

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF ACTION SubDate

TYPE OF SUBMISSION

TYPE OF ACTION

☐ NOTICE OF INTENT  
(Submit in Duplicate)

Approximate date work will

☒ SUBSEQUENT REPORT  
(Submit Original Form Only)

Date of Work Completion:

12/06/2005

☐ ACIDIZE

☐ ALTER CASING

☐ CASING REPAIR

☐ CHANGE TO PREVIOUS PLANS

☐ CHANGE TUBING

☐ CHANGE WELL NAME

☐ CHANGE WELL STATUS

☐ COMMINGLE PRODUCING FORMATIONS

☐ CONVERT WELL TYPE

☐ DEEPEN

☐ FRACTURE TREAT

☐ NEW CONSTRUCTION

☐ OPERATOR CHANGE

☐ PLUG AND ABANDON

☐ PLUG BACK

☐ PRODUCTION (START/STOP)

☐ RECLAMATION OF WELL SITE

☐ RECOMPLETE - DIFFERENT FORMATION

☐ REPERFORATE CURRENT FORMATION

☐ SIDETRACK TO REPAIR WELL

☐ TEMPORARILY ABANDON

☐ TUBING REPAIR

☐ VENT OR FLAIR

☐ WATER DISPOSAL

☐ WATER SHUT-OFF

☒ OTHER: - 5 Year MIT

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

On 11/15/05 Ken Phillips with the EPA was contacted concerning the 5-year MIT on the above listed well. Permission was given at that time to perform the test on 12/06/05. On 12/06/05 the csg was pressured up to 1300 psig and charted for 30 minutes with 0 psi pressure loss. The well was injecting during the test. The tbq pressure was 570 psig during the test. There was not an EPA representative available to witness the test. EPA# UT 20852-04464 API# 43-047-32670.

**Accepted by the  
Utah Division of  
Oil, Gas and Mining  
FOR RECORD ONLY**

NAME (PLEASE PRINT) Callie Duncan

TITLE Production Clerk

SIGNATURE

*Callie Duncan*

DATE 12/07/2005

(This space for State use only)

RECEIVED

DEC 08 2005

DIV. OF OIL, GAS & MINING

# Mechanical Integrity Test

## Casing or Annulus Pressure Mechanical Integrity Test

U.S. Environmental Protection Agency  
Underground Injection Control Program  
999 18<sup>th</sup> Street, Suite 500 Denver, CO 80202-2466

EPA Witness: \_\_\_\_\_ Date: 12 / 6 / 2005

Test conducted by: J.D. Horrocks

Others present: \_\_\_\_\_

Well Name: <u>Monument Federal 34-25-8-12</u>	Type: <u>ER SWD</u>	Status: <u>AC TA UC</u>
Field: <u>Humpback unit</u>		
Location: <u>SW/SE</u> Sec: <u>25</u> T <u>8</u> N <u>10</u> R <u>17</u> W	County: <u>Wintah</u>	State: <u>ut</u>
Operator: <u>Newfield</u>		
Last MIT: _____	Maximum Allowable Pressure: <u>1135</u>	PSIG

Is this a regularly scheduled test?    ☒ Yes    ☐ No  
 Initial test for permit?                ☐ Yes    ☒ No  
 Test after well rework?                ☐ Yes    ☒ No  
 Well injecting during test?            ☐ Yes    ☒ No    If Yes, rate: \_\_\_\_\_ bpd

Pre-test casing/tubing annulus pressure: 0 psig

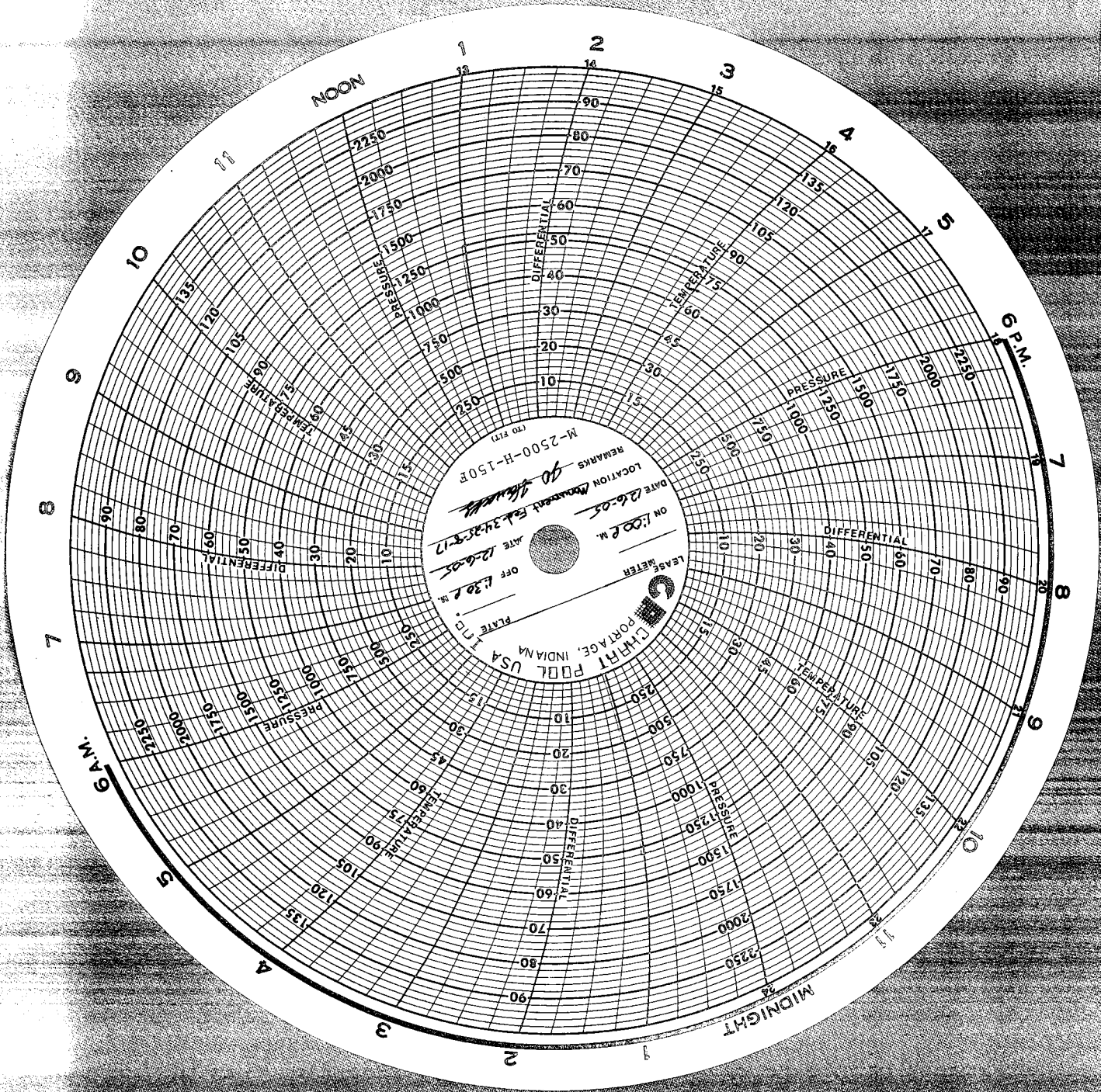
MIT DATA TABLE	Test #1	Test #2	Test #3
<b>TUBING PRESSURE</b>			
Initial Pressure	<u>570</u> psig	psig	psig
End of test pressure	<u>570</u> psig	psig	psig
<b>CASING / TUBING ANNULUS PRESSURE</b>			
0 minutes	<u>1300</u> psig	psig	psig
5 minutes	<u>1300</u> psig	psig	psig
10 minutes	<u>1300</u> psig	psig	psig
15 minutes	<u>1300</u> psig	psig	psig
20 minutes	<u>1300</u> psig	psig	psig
25 minutes	<u>1300</u> psig	psig	psig
30 minutes	<u>1300</u> psig	psig	psig
_____ minutes	psig	psig	psig
_____ minutes	psig	psig	psig
<b>RESULT</b>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

Does the annulus pressure build back up after the test ?    ☐ Yes    ☒ No

## MECHANICAL INTEGRITY PRESSURE TEST

Additional comments for mechanical integrity pressure test, such as volume of fluid added to annulus and bled back at end of test, reason for failing test (casing head leak, tubing leak, other), etc.:

Signature of Witness: \_\_\_\_\_



STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER ☐ Injection well

2. NAME OF OPERATOR:  
NEWFIELD PRODUCTION COMPANY

3. ADDRESS OF OPERATOR: Route 3 Box 3630 CITY Myton STATE UT ZIP 84052 PHONE NUMBER 435.646.3721

4. LOCATION OF WELL:

FOOTAGES AT SURFACE: 0800 FSL 2100 FEL

QTR/OTR. SECTION, TOWNSHIP, RANGE, MERIDIAN: SW/SE, 25, T8S, R17E

5. LEASE DESIGNATION AND SERIAL NUMBER:  
UTU67845

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:  
HUMBACK UNIT

8. WELL NAME and NUMBER:  
BALCRON MONUMENT FED 34-25

9. API NUMBER:  
4304732670

10. FIELD AND POOL, OR WILDCAT:  
Monument Butte

COUNTY: Uintah

STATE: Utah

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
	SubDate			
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate)  Approximate date work will  _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARITLY ABANDON	
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLAIR	
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only)  Date of Work Completion:  02/21/2006	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/STOP)	<input type="checkbox"/> WATER SHUT-OFF	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: -	
	<input type="checkbox"/> CONVERT WELL TYPE	<input checked="" type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION		

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The subject well was recompleted in the Green River Formation. Ten new intervals were perforated the GB4 sds 4456'-4464' with 4 JSPF, GB6 sds 4542'-4548' with 4 JSPF, the D3 sds 5046'-5054' with 4 JSPF, the LODC sds 5674'-5690' with 4 JSPF, the LOCD sds 5720'-5728' with 4 JSPF, the CP1 sds 5816'-5824' with 4 JSPF, the CP1 sds 5832'-5840' with 4 JSPF, the CP1 sds 5852'-5858' with 4 JSPF, the CP2 sds 5898'-5906' with 4 JSPF, and the CP4 sds 6016'-6027' with 4 JSPF, for a total of 348 shots.

On 3/13/06 Nathan Wiser with the EPA was contacted concerning the MIT on the above listed well. Permission was given at that time to perform the test on 3/14/06. On 3/14/06 the csg was pressured up to 1390 psig and charted for 30 minutes with no pressure loss. The well was not injecting during the test. The tbq pressure was 40 psig during the test. There was not an EPA representative available to witness the test. EPA# UT20852-04464 API# 43-047-32670

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
FOR RECORD ONLY

NAME (PLEASE PRINT) Callie Duncan

TITLE Production Clerk

SIGNATURE

*Callie Duncan*

DATE 03/16/2006

(This space for State use only)

RECEIVED  
MAR 22 2006

DIV. OF OIL, GAS & MINING

# Mechanical Integrity Test

## Casing or Annulus Pressure Mechanical Integrity Test

U.S. Environmental Protection Agency  
Underground Injection Control Program  
999 18<sup>th</sup> Street, Suite 500 Denver, CO 80202-2466

EPA Witness: \_\_\_\_\_ Date: 3 / 14 / 06  
Test conducted by: Dale Giles  
Others present: \_\_\_\_\_

Well Name: <u>Momument Fed. 34-25-8-17</u>		Type: <u>ER SWD</u>	Status: <u>AC TA UC</u>
Field: <u>Humpback Unit</u>			
Location: _____	Sec: <u>25</u>	T <u>8</u>	N <u>18</u> R <u>17</u> (E/W County: <u>Uintah</u> State: <u>Ut</u>
Operator: <u>Newfield Production Co.</u>			
Last MIT: <u>1</u>	<u>1</u>	Maximum Allowable Pressure: <u>1135</u>	PSIG

Is this a regularly scheduled test? ☐ Yes ☐ No  
Initial test for permit? ☐ Yes ☐ No  
Test after well rework? ☒ Yes ☐ No  
Well injecting during test? ☐ Yes ☒ No If Yes, rate: \_\_\_\_\_ bpd

Pre-test casing/tubing annulus pressure: 0 psig

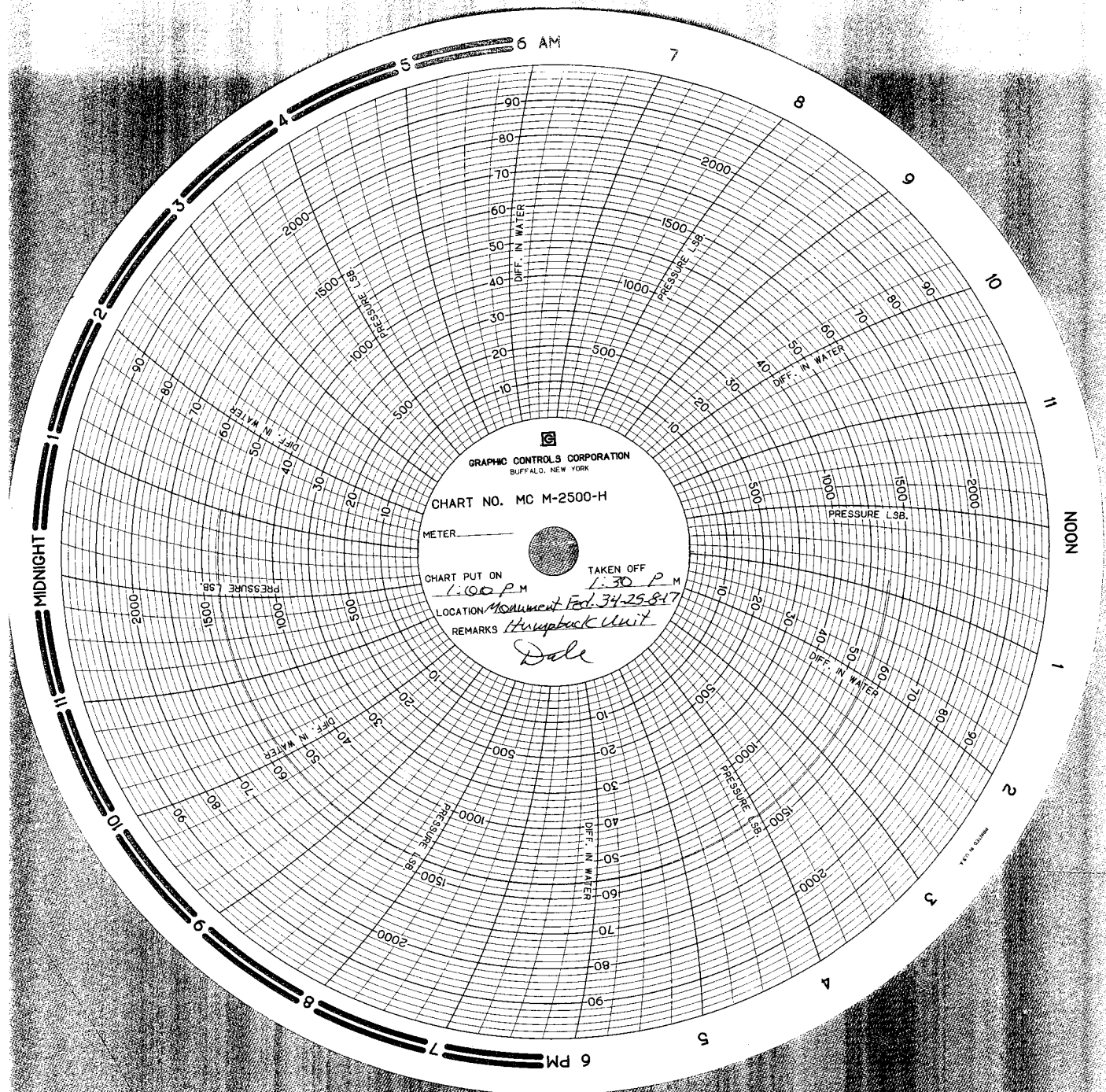
MIT DATA TABLE	Test #1		Test #2		Test #3	
<b>TUBING</b>	<b>PRESSURE</b>					
Initial Pressure	<u>40</u>	psig		psig		psig
End of test pressure	<u>40</u>	psig		psig		psig
<b>CASING/TUBING</b>	<b>ANNULUS</b>		<b>PRESSURE</b>			
0 minutes	<u>1390</u>	psig		psig		psig
5 minutes	<u>1390</u>	psig		psig		psig
10 minutes	<u>1390</u>	psig		psig		psig
15 minutes	<u>1390</u>	psig		psig		psig
20 minutes	<u>1390</u>	psig		psig		psig
25 minutes	<u>1390</u>	psig		psig		psig
30 minutes	<u>1390</u>	psig		psig		psig
_____ minutes		psig		psig		psig
_____ minutes		psig		psig		psig
<b>RESULT</b>	<input type="checkbox"/> Pass	<input type="checkbox"/> Fail	<input type="checkbox"/> Pass	<input type="checkbox"/> Fail	<input type="checkbox"/> Pass	<input type="checkbox"/> Fail

Does the annulus pressure build back up after the test? ☐ Yes ☒ No

## MECHANICAL INTEGRITY PRESSURE TEST

Additional comments for mechanical integrity pressure test, such as volume of fluid added to annulus and bled back at end of test, reason for failing test (casing head leak, tubing leak, other), etc.:

Signature of Witness: \_\_\_\_\_



GRAPHIC CONTROLS CORPORATION  
BUFFALO, NEW YORK

CHART NO. MC M-2500-H

METER \_\_\_\_\_

CHART PUT ON 1:00 P M TAKEN OFF 1:30 P M  
LOCATION Monument Fed. 34-25-817  
REMARKS Humpback Unit

Dale

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, recenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL: OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER		5. LEASE DESIGNATION AND SERIAL NUMBER: U-67845
2. NAME OF OPERATOR: NEWFIELD PRODUCTION COMPANY		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
3. ADDRESS OF OPERATOR: Route 3 Box 3630 CITY Myton STATE UT ZIP 84052		7. UNIT or CA AGREEMENT NAME: HUMBACK UNIT
4. LOCATION OF WELL: FOOTAGES AT SURFACE: 800 FSL 2100 FEL		8. WELL NAME and NUMBER: BLCRN MON 34-25-8-17
OTR/OTR SECTION TOWNSHIP RANGE MERIDIAN: SWSE, 25, T8S, R17E		9. API NUMBER: 4304732670
		10. FIELD AND POOL, OR WILDCAT: MONUMENT BUTTE
		COUNTY: UINTAH
		STATE: UT


11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate)  Approximate date work will  	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK <input type="checkbox"/> PRODUCTION (START/STOP) <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	<input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TEMPORARILY ABANDON <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLAIR <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> WATER SHUT-OFF <input checked="" type="checkbox"/> OTHER: - Step Rate Test
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only)  Date of Work Completion:  08/30/2006			

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

A step rate test was conducted on the subject well on July 20, 2006. Results from the test indicate that the fracture gradient is .670 psi/ft. Therefore, Newfield is requesting that the maximum allowable injection pressure (MAIP) be changed to 1045 psi.

Accepted by the  
Utah Division of  
Oil, Gas and Mining  
FOR RECORD ONLY

NAME (PLEASE PRINT) Cheyenne Bateman TITLE Well Analyst Foreman  
SIGNATURE  DATE 08/30/2006

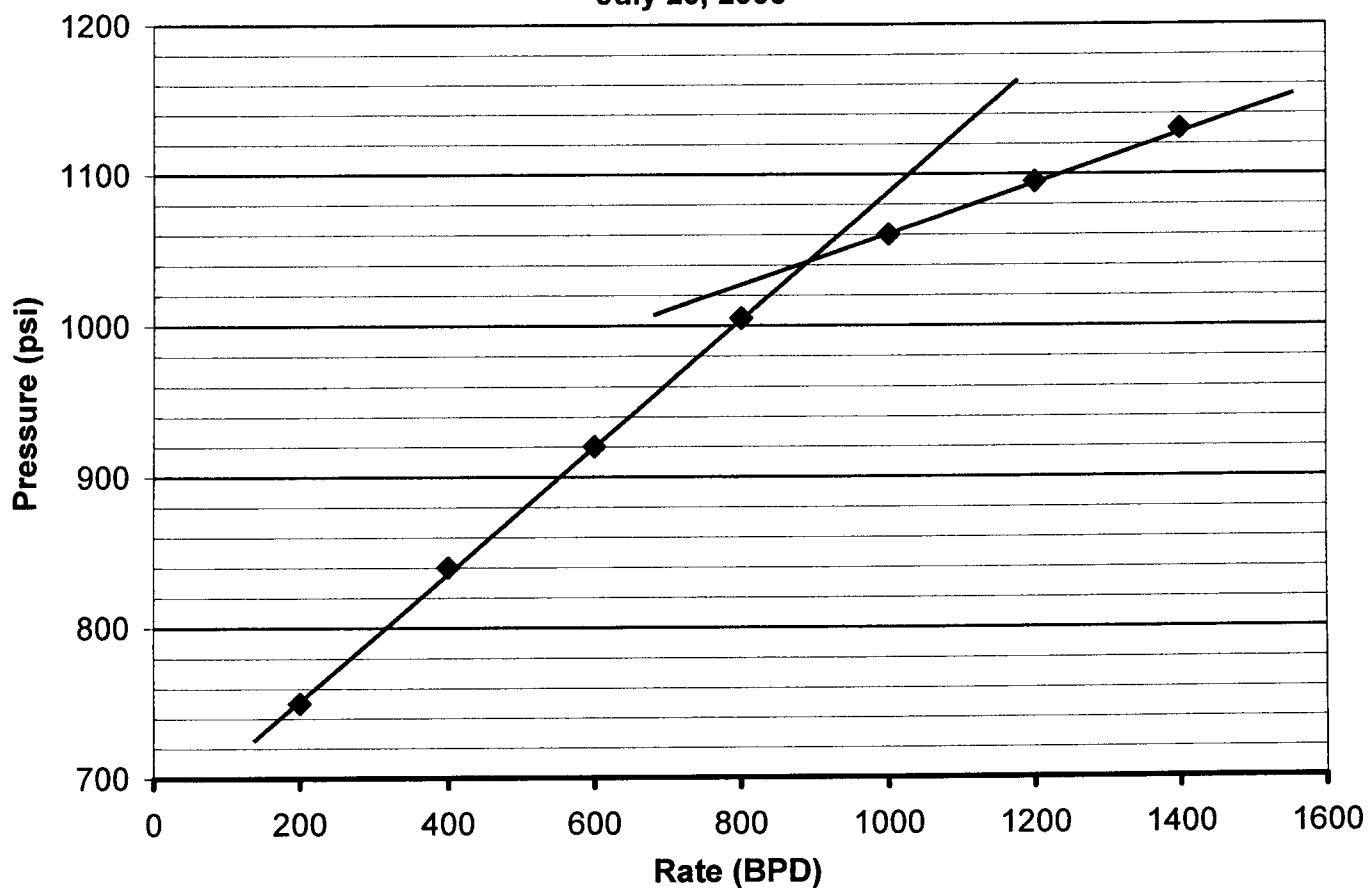
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RECEIVED

SEP 05 2006

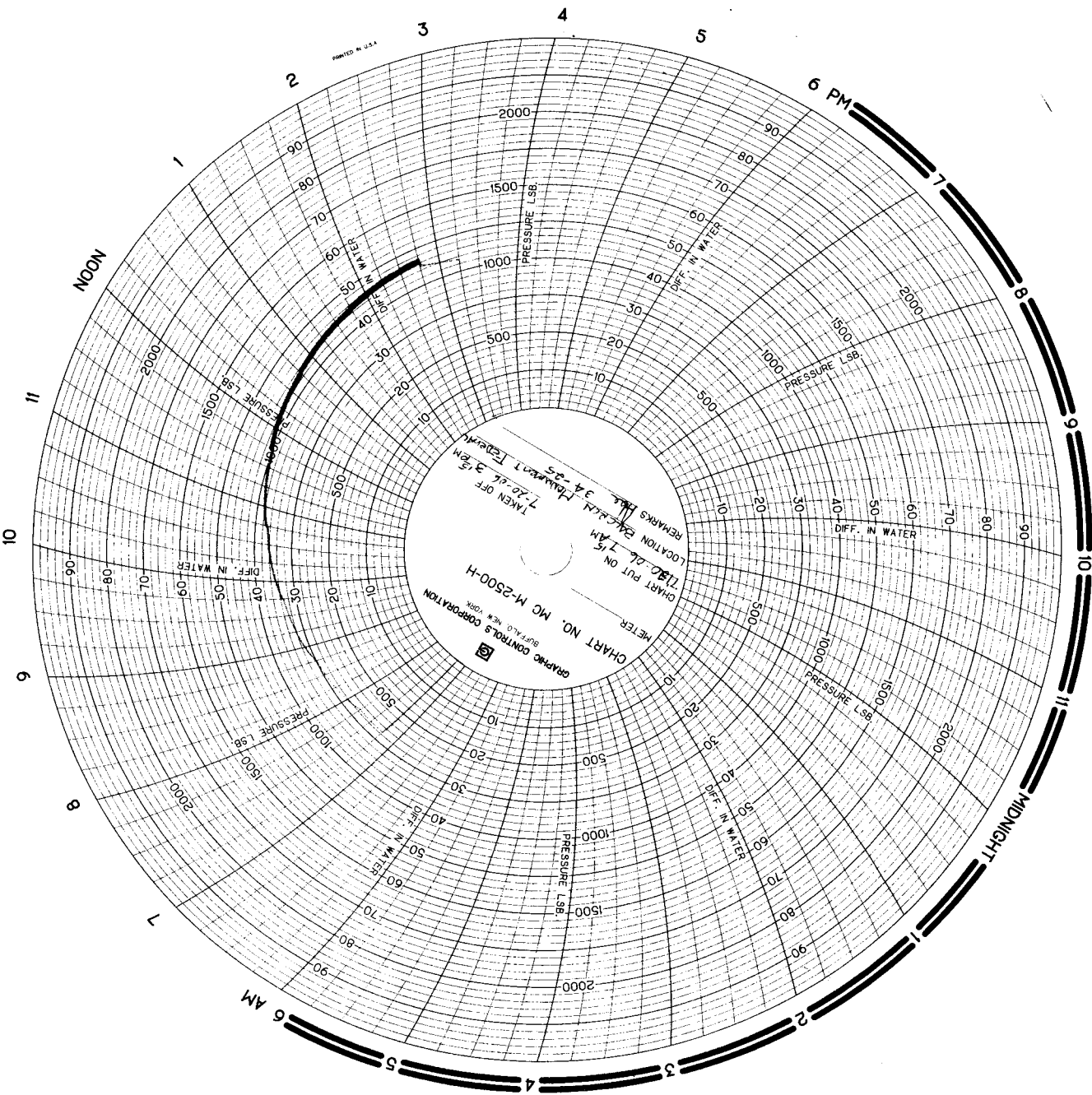
DIV OF OIL, GAS & MINING

**Balcron Monument Federal 34-25  
Humpback Unit  
Step Rate Test  
July 20, 2006**



**Start Pressure:** 680 psi  
**Instantaneous Shut In Pressure (ISIP):** 1135 psi  
**Top Perforation:** 4456 feet  
**Fracture pressure (Pfp):** 1045 psi  
**FG:** 0.670 psi/ft

Step	Rate(bpd)	Pressure(psi)
1	200	750
2	400	840
3	600	920
4	800	1005
5	1000	1060
6	1200	1095
7	1400	1130



**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER:  
USA UTU-67845

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL: OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: NEWFIELD PRODUCTION COMPANY		7. UNIT or CA AGREEMENT NAME: GMBU
3. ADDRESS OF OPERATOR: Route 3 Box 3630 CITY Myton STATE UT ZIP 84052		8. WELL NAME and NUMBER: BALCRON MONUMENT FED 34-25
4. LOCATION OF WELL: FOOTAGES AT SURFACE: 800 FSL 2100 FEL		9. API NUMBER: 4304732670
OTR/OTR. SECTION. TOWNSHIP. RANGE. MERIDIAN: SWSE, 25, T8S, R17E		10. FIELD AND POOL, OR WILDCAT: GREATER MB UNIT
COUNTY: UINTAH		STATE: UT

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate)  Approximate date work will _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARITLY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLAIR
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only)  Date of Work Completion: 01/12/2011	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/STOP)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: - Five Year MIT
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

On 01/05/2011 Nathan Wiser with the EPA was contacted concerning the 5 year MIT on the above listed well. On 01/12/2011 the casing was pressured up to 1300 psig and charted for 30 minutes with no pressure loss. The well was not injecting during the test. The tubing pressure was 964 psig during the test. There was not an EPA representative available to witness the test.

EPA# UT20852-04464 API# 43-047-32670

**Accepted by the  
Utah Division of  
Oil, Gas and Mining  
FOR RECORD ONLY**

NAME (PLEASE PRINT) Lucy Chavez-Naupoto

TITLE Administrative Assistant

SIGNATURE

DATE 01/13/2011

(This space for State use only)

**RECEIVED**

**JAN 20 2011**

DIV. OF OIL, GAS & MINING

# Mechanical Integrity Test Casing or Annulus Pressure Mechanical Integrity Test

U.S. Environmental Protection Agency  
Underground Injection Control Program  
999 18<sup>th</sup> Street, Suite 500 Denver, CO 80202-2466

EPA Witness: \_\_\_\_\_ Date: 1/12/2011  
Test conducted by: Randy Cloward  
Others present: \_\_\_\_\_

Well Name: <u>Monument Federal 34-25-8-17</u>	Type: <u>ER SWD</u>	Status: <u>AC TA UC</u>
Field: <u>Monument Butte NewField</u>		
Location: <u>MF 34</u> Sec: <u>25 T 8 N 10 E</u> R: <u>17</u> County: <u>Uintah</u> State: <u>UT</u>		
Operator: _____		
Last MIT: <u>1/1</u>	Maximum Allowable Pressure: <u>1045</u>	PSIG

Is this a regularly scheduled test? ☐ Yes ☐ No  
Initial test for permit? ☐ Yes ☒ No  
Test after well rework? ☐ Yes ☒ No  
Well injecting during test? ☒ Yes ☐ No If Yes, rate: 17 bpd

Pre-test casing/tubing annulus pressure: 964 psig

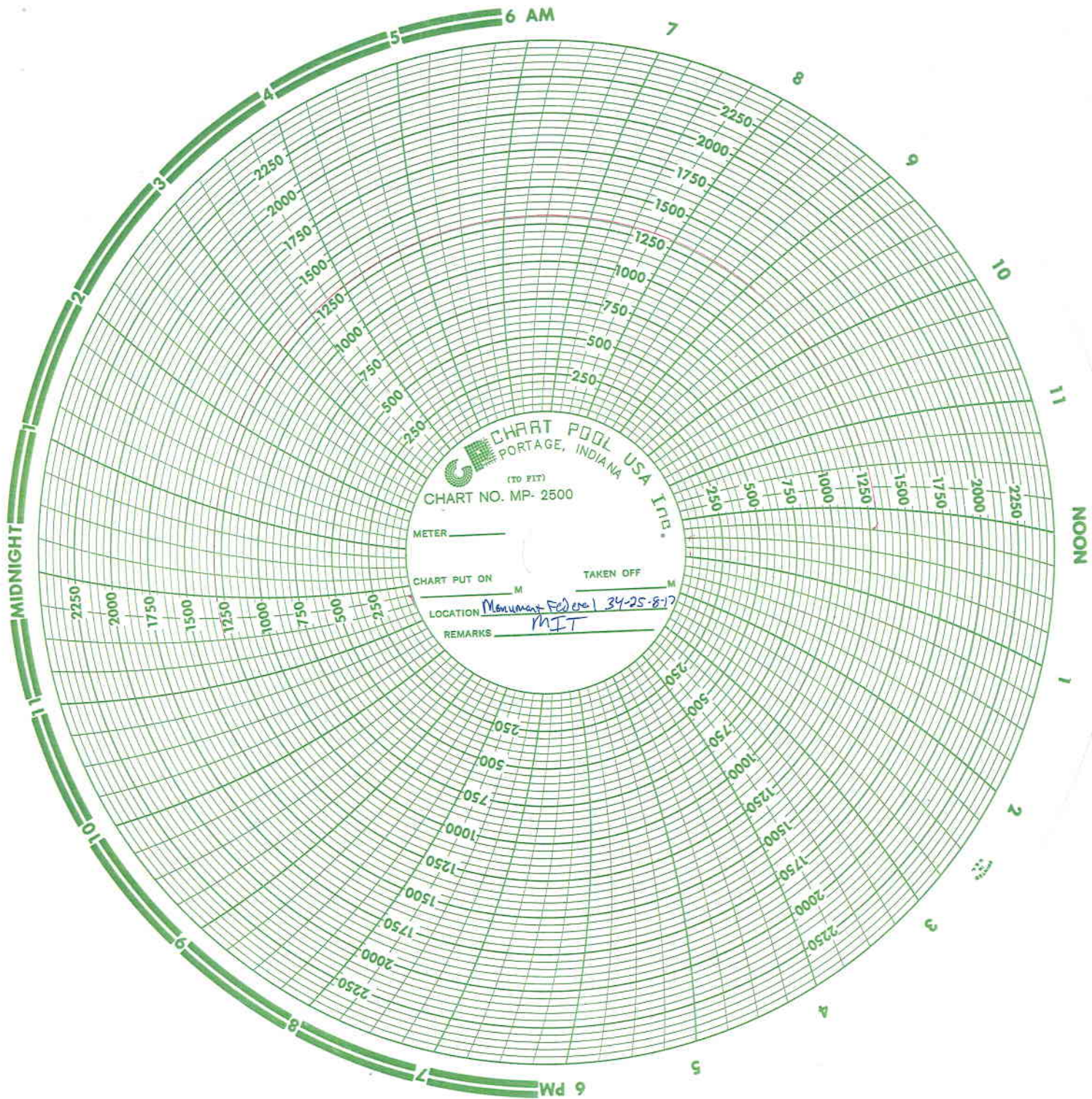
MIT DATA TABLE		Test #1	Test #2	Test #3
<b>TUBING PRESSURE</b>				
Initial Pressure	<u>964</u> psig	psig	psig	psig
End of test pressure	<u>964</u> psig	psig	psig	psig
<b>CASING / TUBING ANNULUS PRESSURE</b>				
0 minutes	<u>1300</u> psig	psig	psig	psig
5 minutes	<u>1300</u> psig	psig	psig	psig
10 minutes	<u>1300</u> psig	psig	psig	psig
15 minutes	<u>1300</u> psig	psig	psig	psig
20 minutes	<u>1300</u> psig	psig	psig	psig
25 minutes	<u>1300</u> psig	psig	psig	psig
30 minutes	<u>1300</u> psig	psig	psig	psig
_____ minutes	psig	psig	psig	psig
_____ minutes	psig	psig	psig	psig
<b>RESULT</b>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

Does the annulus pressure build back up after the test? ☐ Yes ☐ No

## MECHANICAL INTEGRITY PRESSURE TEST

Additional comments for mechanical integrity pressure test, such as volume of fluid added to annulus and bled back at end of test, reason for failing test (casing head leak, tubing leak, other), etc.:

Signature of Witness: \_\_\_\_\_



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-67845
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
		7. UNIT or CA AGREEMENT NAME: GMBU (GRRV)
1. TYPE OF WELL Water Injection Well		8. WELL NAME and NUMBER: BALCRON MON FED 34-25
2. NAME OF OPERATOR: NEWFIELD PRODUCTION COMPANY		9. API NUMBER: 43047326700000
3. ADDRESS OF OPERATOR: Rt 3 Box 3630, Myton, UT, 84052		9. FIELD and POOL or WILDCAT: MONUMENT BUTTE
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0800 FSL 2100 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSE Section: 25 Township: 08.0S Range: 17.0E Meridian: S		COUNTY: UINTAH
		STATE: UTAH

11.

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input checked="" type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION  OTHER: <input type="text" value="5 YR MIT"/>
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 12/23/2015			
<input type="checkbox"/> SPUD REPORT Date of Spud:			
<input type="checkbox"/> DRILLING REPORT Report Date:			

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

5 YR MIT performed on the above listed well. On 12/23/2015 the casing was pressured up to 1453 psig and charted for 30 minutes with no pressure loss. The well was not injecting during the test. The tbq pressure was 1166 psig during the test. There was not an EPA representative available to witness the test. EPA #UT22197-04464

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 January 04, 2016

NAME (PLEASE PRINT) Lucy Chavez-Naupoto	PHONE NUMBER 435 646-4874	TITLE Water Services Technician
SIGNATURE N/A		DATE 12/28/2015

# Mechanical Integrity Test

## Casing or Annulus Pressure Mechanical Integrity Test

U.S. Environmental Protection Agency  
Underground Injection Control Program  
999 18<sup>th</sup> Street, Suite 500 Denver, CO 80202-2466

EPA Witness: \_\_\_\_\_ Date: 12 / 23 / 2015  
Test conducted by: Kyle Sturson  
Others present: \_\_\_\_\_

Well Name: <u>Balston Monument Federal</u>	Type: ER SWD	Status: AC TA UC
Field: <u>Monument Butte</u>		
Location: <u>34</u> Sec: <u>26</u> T <u>8</u> N/S R <u>17</u> E/W	County: <u>Uintah</u>	State: <u>UT</u>
Operator: <u>Newfield Exploration</u>		
Last MIT: <u>1</u> / <u>1</u>	Maximum Allowable Pressure: <u>1245</u>	PSIG

Is this a regularly scheduled test? ☒ Yes ☐ No  
Initial test for permit? ☐ Yes ☒ No  
Test after well rework? ☐ Yes ☒ No  
Well injecting during test? ☐ Yes ☒ No If Yes, rate: \_\_\_\_\_ bpd

Pre-test casing/tubing annulus pressure: 0-0 TBG- psig

MIT DATA TABLE	Test #1	Test #2	Test #3
<b>TUBING PRESSURE</b>			
Initial Pressure	<u>1166</u> psig	psig	psig
End of test pressure	<u>1166</u> psig	psig	psig
<b>CASING / TUBING ANNULUS PRESSURE</b>			
0 minutes	<u>1455</u> psig	psig	psig
5 minutes	<u>1455</u> psig	psig	psig
10 minutes	<u>1455</u> psig	psig	psig
15 minutes	<u>1455</u> psig	psig	psig
20 minutes	<u>1454</u> psig	psig	psig
25 minutes	<u>1454</u> psig	psig	psig
30 minutes	<u>1453</u> psig	psig	psig
_____ minutes	psig	psig	psig
_____ minutes	psig	psig	psig
<b>RESULT</b>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

Does the annulus pressure build back up after the test? ☐ Yes ☒ No

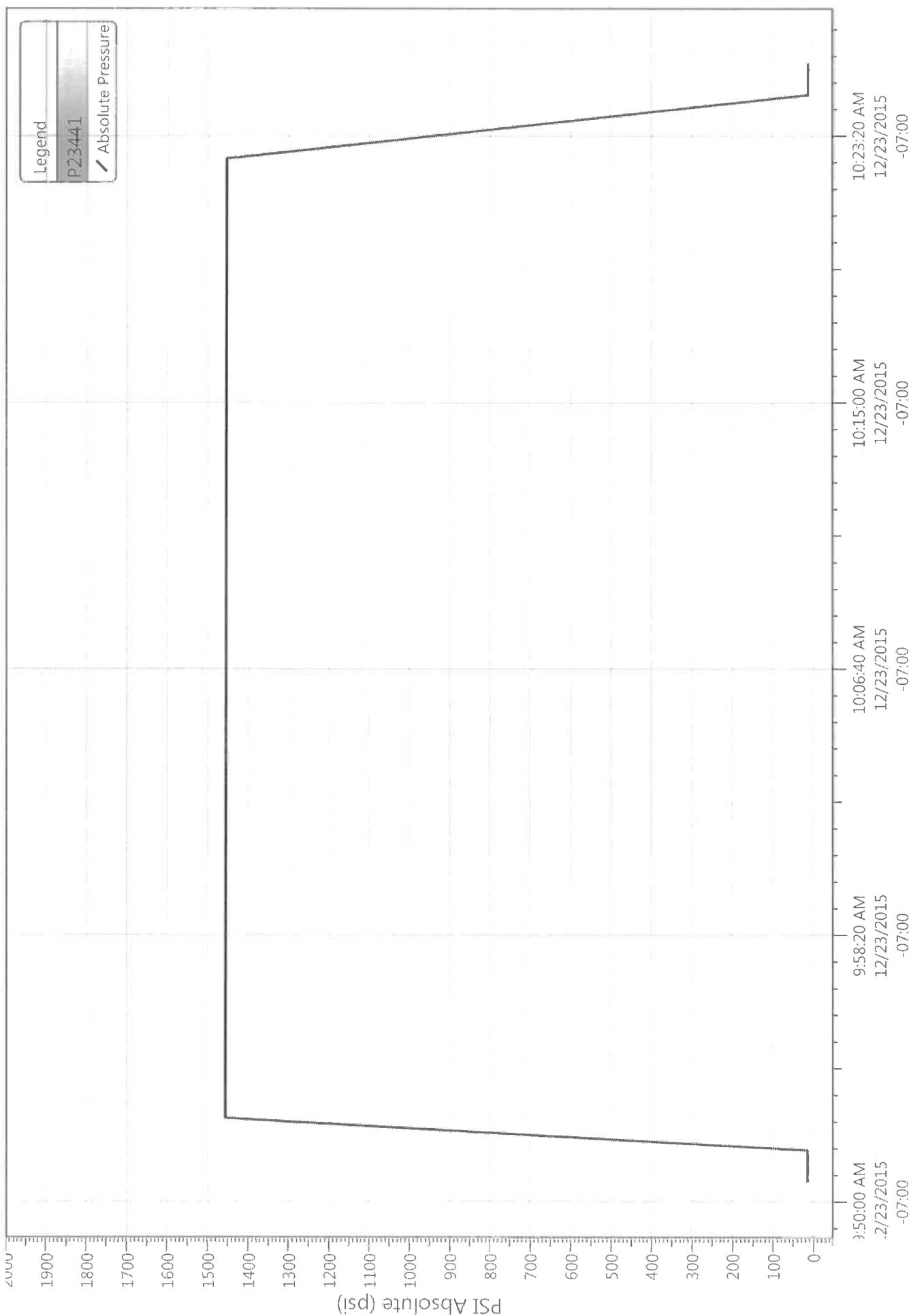
## MECHANICAL INTEGRITY PRESSURE TEST

Additional comments for mechanical integrity pressure test, such as volume of fluid added to annulus and bled back at end of test, reason for failing test (casing head leak, tubing leak, other), etc.:

Signature of Witness: \_\_\_\_\_

Balcron Monument Federal 34-25-8-17 (5 Year MIT) 12/23/2015

12/23/2015 9:49:52 AM



Spud Date: 10/4/95  
 Put on Production: 11/1/95  
 Put on Injection: 2/15/01  
 GL: 5007' KB: 5017'

## Balcron Monument Fed 34-25

### SURFACE CASING

CSG SIZE: 8-5/8"  
 GRADE: J-55  
 WEIGHT: 24#  
 LENGTH: 7 jts (288')  
 DEPTH LANDED: 298' GL  
 HOLE SIZE: 12-1/4"  
 CEMENT DATA: 190 sx Class "C", est 6 bbls cmt to surface

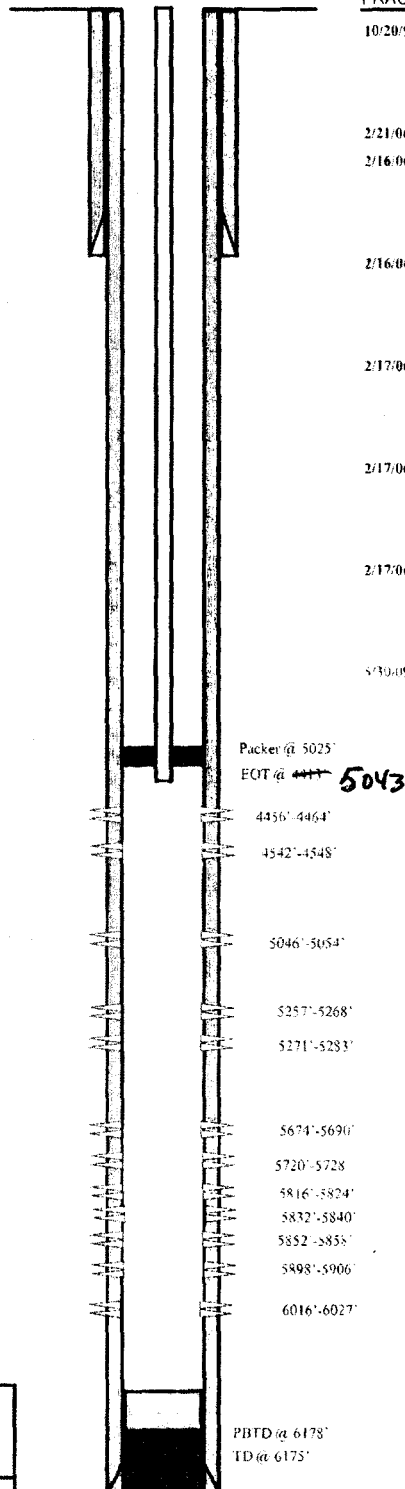
### PRODUCTION CASING

CSG SIZE: 5-1/2"  
 GRADE: J-55  
 WEIGHT: 15.5'  
 LENGTH: 143 jts (6098')  
 DEPTH LANDED: 6108' KB  
 HOLE SIZE: 7-7/8"  
 CEMENT DATA: 220 sx Super G & 395 sx 50-50 Poz  
 CEMENT TOP AT: 1730' KB

### TUBING

SIZE GRADE/WT: 2-7/8" J-55, 6.5#  
 NO. OF JOINTS: 162 jts (5024.88')  
 SEATING NIPPLE: 2-7/8" (1.10')  
 SN LANDED AT: 5034.88' KB  
 ARROWSET PACKER.  
 TOTAL STRING LENGTH: EOT @ 5043.30' KB

### Injection Wellbore Diagram



### FRAC JOB

Date	Depth Range	Details
10/20/95	5257'-5283'	Frac sand as follows: 59,120# 20/40 sand & 87,240# 16/30 sand in 868 bbls KCl water. Treated w/avg press of 1500 psi w/avg rate of 37.5 BPM. ISIP: 1550 psi. 5 min 990 psi
2/21/06		Re-Completion.
2/16/06	6016'-6027'	Frac CP4 sds as follows: 14,528# 20/40 sds in 163 bbls Lightning Frac 17 fluid. Perfs broke down @ 4733 psi. Treated @ ave pressure of 3427 psi with ave rate of 14.3 BPM. ISIP 1850 psi
2/16/06	5816'-5906'	Frac CP1 & CP2 sds as follows: 39,903# 20/40 sand in 336 bbls Lightning Frac 17 fluid. Perfs broke down @ 2700 psi. Treated @ ave pressure of 2802 psi with ave rate of 14.4 BPM. ISIP 1400 psi
2/17/06	5674'-5728'	Frac LODC sds as follows: 30,214# 20/40 sand in 266 bbls Lightning Frac 17 fluid. Perfs broke down @ 3282 psi. Treated @ ave pressure of 3391 psi with ave rate of 14.3 BPM. ISIP 2200 psi
2/17/06	5046'-5054'	Frac D3 sds as follows: 9,030# 20/40 sds in 90 bbls Lightning Frac 17 fluid. Perfs broke down @ 4225 psi. Treated @ ave pressure of 3933 psi with ave rate of 14.2 BPM.
2/17/06	4456'-4548'	Frac GB4 & GB6 sds as follows: 37,579# 20/40 sand in 289 bbls Lightning Frac 17 fluid. Perfs broke down @ 3605 psi. Treated @ ave pressure of 2723 psi with ave rate of 14.3 BPM. ISIP 1900 psi
5/30/09		Zone Stimulation.

### PERFORATION RECORD

Date	Depth Range	ISPF	Holes
10-19-95	5257'-5268'	4 ISPF	44 holes
10-19-95	5271'-5283'	4 ISPF	48 holes
2/17/06	4456'-4464'	4 ISPF	32 holes
2/17/06	4542'-4548'	4 ISPF	24 holes
2/17/06	5046'-5054'	4 ISPF	32 holes
2/17/06	5674'-5690'	4 ISPF	64 holes
2/17/06	5720'-5728'	4 ISPF	32 holes
2/16/06	5816'-5824'	4 ISPF	32 holes
2/16/06	5832'-5840'	4 ISPF	32 holes
2/16/06	5852'-5858'	4 ISPF	24 holes
2/16/06	5898'-5906'	4 ISPF	32 holes
2/16/06	6016'-6027'	4 ISPF	44 holes



**Balcron Monument Fed. 34-25**  
 800 FSL & 2100 FEL  
 SW SE Section 25-T8S-R17E  
 Uintah Co, Utah  
 API #43-047-32670; Lease #U-67845